Department of Mathematics
University of South Carolina
Self-Study
November 2002

Short Curricula Vitæ
and
The Publications of the Mathematics Faculty

George Androulakis

Graduate Education: University of Texas, Austin
Ph.D. August 1996; Thesis Advisor: Haskell P. Rosenthal

Undergratuate Education: University of Crete, Greece.

Professional Employment

Permanent Positions

2000-present	Assistant Professor	University of South Carolina, Columbia

Visiting Positions

1998-2000	Visiting Assistant Professor	Texas A & M University
1996-1998	Postdoctoral Fellow	University of Missouri, Columbia
1994-1996	Assistant Instructor	University of Texas, Austin

Awards and Honors

1998	NSF Young Investigator Award	
1995-1996	Professional Development Award	University of Texas, Austin

Publications: 14 articles (8 in print, 2 accepted, 1 submitted, 3 in preparation)
Invited Addresses and External Colloquia/Seminars: 22 in 14 different institutions in 2 countries.
Grant Support: 1 NSF research grant: 1999-2002.
Conference Organizing or Program Committees: 1 regional conference.
Refereeing and Reviewing: Referee for 6 professional journals. Reviewer for 1 funding agency. Reviewer for Mathematical Reviews.

November 15, 2002 George Androulakis

The Publications of George Androulakis

1. G. Androulakis and T. Schlumprecht, *Strictly singular, non-compact operators exist on the space of Gowers and Maurey*, J. London Math. Soc. (2) **64** (2001), 655–674. 1 843 416
2. George Androulakis, Peter G. Casazza, and Denka N. Kutzarova, *Some more weak Hilbert spaces*, Canad. Math. Bull. **43** (2000), 257–267. MR 2002h:46012
3. George Androulakis and Stamatis Dostoglou, *Positivity results for the Yang-Mills-Higgs Hessian*, Pacific J. Math. **194** (2000), 1–17. MR 2001h:58015
4. G. Androulakis and E. Odell, *Distorting mixed Tsirelson spaces*, Israel J. Math. **109** (1999), 125–149. MR 2000f:46012
5. G. Androulakis, C. D. Cazacu, and N. J. Kalton, *Twisted sums, Fenchel-Orlicz spaces and property (M)*, Houston J. Math. **24** (1998), 105–126. MR 2000e:46020
6. George Androulakis and Stamatis Dostoglou, *On the stability of monopole solutions*, Nonlinearity **11** (1998), 377–408. MR 2000d:58022
7. G. Androulakis, *A subsequence characterization of sequences spanning isomorphically polyhedral Banach spaces*, Studia Math. **127** (1998), 65–80. MR 99b:46008
8. _____, *A counterexample to a question of R. Haydon, E. Odell and H. Rosenthal [in Functional analysis (Austin, TX, 1987/1989), 1–35, Lecture Notes in Math., 1470, Springer, Berlin, 1991; MR 92h:46018]*, Proc. Amer. Math. Soc. **126** (1998), 1425–1428. MR 98j:46011

Howard S. Becker

Graduate Education: University of California at Los Angeles
Ph.D. 1979 in Mathematics; Thesis Advisor: Yiannis Moschovakis

Undergraduate Education: Dartmouth College
B.A. 1972 in Mathematics.

Professional Employment

Permanent Positions

1984–present	Associate Professor	University of South Carolina, Columbia, SC

Visiting Positions

Fall 2002	Visiting Scholar	Fields Institute, Toronto, Canada
Spring 2001	Visiting Professor	California Institute of Technology, Pasadena, CA
Fall 1997	Visiting Professor	California Institute of Technology, Pasadena, CA
Spring 1994	Visiting Professor	California Institute of Technology, Pasadena, CA
Fall 1993	Visiting Professor	The Ohio State University, Columbus, OH
Spring 1990	Visiting Researcher	Mathematical Sciences Research Institute, Berkeley, CA
Fall 1989	Visiting Professor	California Institute of Technology, Pasadena, CA

Postdoctoral Positions

1982–1984	NSF Research Fellow	California Institute of Technology, Pasadena, CA
1980–1982	Van Vleck Instructor	University of Wisconsin, Madison, WI
Spring 1980	Instructor	University of California, Los Angeles, CA

Awards and Honors

1982–1984 NSF Mathematical Sciences Postdoctoral Research Fellowship

Publications: 39 (1 monograph, 31 articles in print or in press; 7 submitted or in preparation).

Invited Addresses at Masthematical Conferences: 23 in 5 countries.

Grant Support: NSF operating research grants:

Conference Organizing or Program Committees: 1 international conference and 1 regional conference.

Editing, Refereeing, and Reviewing: Editorial Board of the Journal of Symbolic Logic, 1998–2000. Referee for several professional journals. Proposal reviewer for the National Science Foundation.

The Publications of Howard Becker

Monographs

1. Howard Becker and Alexander S. Kechris, *The descriptive set theory of Polish group actions*, London Mathematical Society Lecture Note Series, vol. 232, Cambridge University Press, Cambridge, 1996, ISBN 0-521-57605-9. MR 98d:54068

Articles

2. Howard Becker, *Finer topologies on pointsets in Polish spaces* (in preparation).
3. _____, $AD_{\mathbb{R}}$ *implies that* $\aleph_1$ *is huge* (in preparation).
4. _____, *The descriptive set theory of sequences in separable Banach spaces* (in preparation).
5. _____, *On the Mauldin-Ulam problem on universal sets* (in preparation).
6. _____, *Path-connectedness, simple connectedness and descriptive set theory* (in preparation).
7. _____, *Polish group actions and generalized model theory* (in preparation).
8. _____, *Idealistic equivalence relations* (in preparation).
9. _____, *The restriction of a Borel equivalence relation to a sparse set* (to appear).
10. _____, *Topics in invariant descriptive set theory*, Ann. Pure Appl. Logic **111** (2001), 145–184. MR 2002i:03052
11. Howard Becker and Steve Jackson, *Supercompactness within the projective hierarchy*, J. Symbolic Logic **66** (2001), 658–672. MR 2002e:03071
12. Howard Becker and Roman Pol, *Note on path-components in complete spaces*, Topology Appl. **114** (2001), 107–114. MR 2002a:54028
13. Howard Becker, *Ideals without ccc and without property (M)*, Proc. Amer. Math. Soc. **128** (2000), 3031–3034. MR 2000m:03114
14. Howard Becker and Randall Dougherty, *On disjoint Borel uniformizations*, Adv. Math. **146** (1999), 167–174. MR 2000i:03076
15. Howard Becker, *The number of path-components of a compact subset of* $\mathbf{R}^n$, Logic Colloquium '95 (Haifa), Lecture Notes Logic, vol. 11, Springer, Berlin, 1998, pp. 1–16. MR 2000d:03111
16. _____, *Polish group actions: dichotomies and generalized elementary embeddings*, J. Amer. Math. Soc. **11** (1998), 397–449. MR 99g:03051
17. Howard Becker, Fons van Engelen, and Jan van Mill, *Disjoint embeddings of compacta*, Mathematika **41** (1994), 221–232. MR 95m:54021
18. Howard Becker, *The topological Vaught's conjecture and minimal counterexamples*, J. Symbolic Logic **59** (1994), 757–784. MR 95k:03077
19. _____, *Representing projective sets as unions of Borel sets*, Proc. Amer. Math. Soc. **123** (1995), 883–886. MR 95d:03086
20. _____, *Descriptive set-theoretic phenomena in analysis and topology*, Set Theory of the Continuum (Berkeley, CA, 1989), Math. Sci. Res. Inst. Publ., vol. 26, Springer, New York, 1992, pp. 1–25. MR 94k:03062
21. Howard Becker and Alexander S. Kechris, *Borel actions of Polish groups*, Bull. Amer. Math. Soc. (N.S.) **28** (1993), 334–341. MR 93m:03083
22. Howard Becker, Sylvain Kahane, and Alain Louveau, *Some complete* Σ^1_2 *sets in harmonic analysis*, Trans. Amer. Math. Soc. **339** (1993), 323–336. MR 93k:04002
23. Howard Becker, *Cofinal families of compact subsets of an analytic set*, Proc. Amer. Math. Soc. **106** (1989), 853–856. MR 90e:03062
24. _____, *A characterization of jump operators*, J. Symbolic Logic **53** (1988), 708–728. MR 90a:03067
25. Howard S. Becker, *More closure properties of pointclasses*, Cabal Seminar 81–85, Lecture Notes in Math., vol. 1333, Springer, Berlin, 1988, pp. 31–36. MR 89i:03092
26. Howard Becker, *Borel and analytic one-one parametrizations of the countable sets of reals*, Proc. Amer. Math. Soc. **103** (1988), 929–932. MR 89i:03091

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27. _____, *Pointwise limits of subsequences and Σ^1_2 sets*, Fund. Math. **128** (1987), 159–170. MR 88k:54055

28. _____, *Some examples of Borel-inseparable pairs of coanalytic sets*, Mathematika **33** (1986), 72–79. MR 87j:54057

29. _____, *Inner model operators and the continuum hypothesis*, Proc. Amer. Math. Soc. **96** (1986), 126–129. MR 87h:03088

30. _____, *Analytic sets from the point of view of compact sets*, Math. Proc. Cambridge Philos. Soc. **99** (1986), 1–4. MR 87d:03133

31. _____, *A property equivalent to the existence of scales*, Trans. Amer. Math. Soc. **287** (1985), 591–612. MR 86g:03085

32. _____, *Determinacy of Banach games*, J. Symbolic Logic **50** (1985), 110–122. MR 86c:03045

33. Howard S. Becker and Alexander S. Kechris, *Sets of ordinals constructible from trees and the third Victoria Delfino problem*, Axiomatic Set Theory (Boulder, Colo., 1983), Contemp. Math., vol. 31, Amer. Math. Soc., Providence, RI, 1984, pp. 13–29. MR 86a:03051

34. Howard Becker, *A technique for proving uniformity*, Proc. Amer. Math. Soc. **90** (1984), 103–106. MR 85e:03108

35. _____, *Determinacy implies that $\aleph_2$ is supercompact*, Israel J. Math. **40** (1981), 229–234 (1982). MR 83f:03048

36. _____, *AD and the supercompactness of $\aleph_1$*, J. Symbolic Logic **46** (1981), 822–842. MR 83b:03061

37. _____, *Thin collections of sets of projective ordinals and analogs of L*, Ann. Math. Logic **19** (1980), 205–241. MR 82g:03087

38. Howard S. Becker and Yiannis N. Moschovakis, *Measurable cardinals in playful models*, Cabal Seminar 77–79 (Proc. Caltech-UCLA Logic Sem., 1977–79), Lecture Notes in Math., vol. 839, Springer, Berlin, 1981, pp. 203–214. MR 82e:03052

39. Howard Becker, *Partially playful universes*, Cabal Seminar 76–77 (Proc. Caltech-UCLA Logic Sem., 1976–77), Lecture Notes in Math., vol. 689, Springer, Berlin, 1978, pp. 55–90. MR 80g:03050

Colin Bennett

Graduate Education: University of Newcastle upon Tyne
Ph.D. 1971 in Mathematics; Dissertation Advisor: John E. Gilbert

Undergraduate Education: University of Newcastle upon Tyne
B.Sc. 1967 in Mathematics

Professional Employment

1982–present	Professor	University of South Carolina, Columbia, SC
1999–2002	Associate Dean of Research	University of South Carolina, Columbia, SC
1985–1991	Department Chair	University of South Carolina, Columbia, SC
1983–1984	Assistant Chair	University of South Carolina, Columbia, SC
1982–1983	Undergraduate Director	University of South Carolina, Columbia, SC
1979–1982	Associate Professor	University of South Carolina, Columbia, SC
1976–1979	Associate Professor	McMaster University, Hamilton, Ontario, Canada
1973–1976	Assistant Professor	California Institute of Technology, Pasadena, CA

Postdoctoral Position

1971–1973	Harry Bateman Research Instructor	California Institute of Technology, Pasadena CA

Publications: 28 (1 co-authored book; 25 refereed articles in print; 2 book reviews)

Invited Addresses and Seminars: Invited Hour Address, Canadian Mathematical Society (1979)

Doctoral Students: 2 completed (one at California Institute of Technology).

Masters Students: 10 completed (2 at McMaster University).

Grant Support: NSF EPSCoR Grant 1992–97, Air Force Weapons Laboratory grant 1990–91, Westinghouse/Savannah River Corporation 1989–90, NSF research grants 1974–76 and 1979–85, NSF SCREMS grant 1983-85, NSERC grant 1977–79.

Editing, Refereeing, and Reviewing: Referee for at least 10 professional journals.

Service on Other Profession Panels: Consultant to Cosmos Corporation (1995), Joint Policy Board for Mathematics Committee of Department Heads (1985–88), Canadian Mathematical Society board of Directors (1977–1980).

The Publications of Colin Bennett

Monographs

1. Colin Bennett and Robert Sharpley, *Interpolation of operators*, Pure and Applied Mathematics, vol. 129, Academic Press Inc., Boston, MA, 1988, ISBN 0-12-088730-4. MR 89e:46001

Articles

2. George G. Lorentz, *Mathematics from Leningrad to Austin. Vol. 2*, Contemporary Mathematicians, Birkhäuser Boston Inc., Boston, MA, 1997, ISBN 0-8176-3922-5, George G. Lorentz' selected works in real, functional, and numerical analysis; With contributions by Tamás Erdélyi, Paul Nevai, Colin Bennett and Hubert Berens Edited by Rudolph A. Lorentz. MR 98i:01037
3. Colin Bennett and Robert Sharpley, *K-divisibility and a theorem of Lorentz and Shimogaki*, Proc. Amer. Math. Soc. **96** (1986), 585–592. MR 88g:46086
4. Colin Bennett and Manfred Stoll, *Derivatives of analytic functions and bounded mean oscillation*, Arch. Math. (Basel) **47** (1986), 438–442. MR 88a:30074
5. Colin Bennett, *Nontangential maximal functions and bounded lower oscillation*, Anniversary Volume on Approximation Theory and Functional Analysis (Oberwolfach, 1983), Internat. Schriftenreihe Numer. Math., vol. 65, Birkhäuser, Basel, 1984, pp. 173–185. MR 87g:42034
6. C. Bennett, R. A. DeVore, and R. Sharpley, *Maximal singular integrals on L^∞*, Functions, Series, Operators, Vol. I, II (Budapest, 1980), Colloq. Math. Soc. János Bolyai, vol. 35, North-Holland, Amsterdam, 1983, pp. 233–236. MR 86b:42017
7. Colin Bennett, *Another characterization of BLO*, Proc. Amer. Math. Soc. **85** (1982), 552–556. MR 84h:42029
8. Colin Bennett and Robert Sharpley, *Interpolation between H^1 and L^∞*, Functional Analysis and Approximation (Oberwolfach, 1980), Internat. Ser. Numer. Math., vol. 60, Birkhäuser, Basel, 1981, pp. 111–116. MR 83h:46040
9. Colin Bennett, Ronald A. DeVore, and Robert Sharpley, *Weak-L^∞ and BMO*, Ann. of Math. (2) **113** (1981), 601–611. MR 82h:46047
10. Colin Bennett, Karl Rudnick, and Jeffrey D. Vaaler, *Best uniform approximation by linear fractional transformations*, J. Approx. Theory **25** (1979), 204–224. MR 82b:41017
11. C. Bennett and R. Sharpley, *On an inequality for the sharp function*, Quantitative Approximation (Proc. Internat. Sympos., Bonn, 1979), Academic Press, New York, 1980, pp. 1–6. MR 82a:42017
12. Colin Bennett and Karl Rudnick, *On Lorentz-Zygmund spaces*, Dissertationes Math. (Rozprawy Mat.) **175** (1980), 67. MR 81i:42020
13. Colin Bennett, Karl Rudnick, and Jeffrey D. Vaaler, *Note on best approximation of x*, Canad. Math. Bull. **22** (1979), 363–366. MR 80k:41006
14. Colin Bennett and Robert Sharpley, *Weak-type inequalities for H^p and BMO*, Harmonic Analysis in Euclidean Spaces (Proc. Sympos. Pure Math., Williams Coll., Williamstown, Mass., 1978), Part 1, Proc. Sympos. Pure Math., XXXV, Part, Amer. Math. Soc., Providence, R.I., 1979, pp. 201–229. MR 80j:46044
15. Colin Bennett and Robert C. Sharpley, *Weak-type inequalities in analysis*, Linear Spaces and Approximation (Proc. Conf., Math. Res. Inst., Oberwolfach, 1977), Lecture Notes in Biomath., vol. 21, Springer, Berlin, 1978, pp. 151–162. MR 80d:47049
16. Colin Bennett, *Banach function spaces and interpolation methods. III. Hausdorff-Young estimates*, J. Approximation Theory **13** (1975), 267–275, Collection of articles dedicated to G. G. Lorentz on the occasion of his sixty-fifth birthday, III. MR 58 #2208
17. Colin Bennett, Karl Rudnick, and Jeffrey D. Vaaler, *On a problem of Saff and Varga concerning best rational approximation*, Padé and Rational Approximation (Proc. Internat. Sympos., Univ. South Florida, Tampa, Fla., 1976), Academic Press, New York, 1977, pp. 235–245. MR 57 #13302
18. Colin Bennett, *A best constant for Zygmund's conjugate function inequality*, Proc. Amer. Math. Soc. **56** (1976), 256–260. MR 53 #6214
19. _____, *Banach function spaces and interpolation methods. II. Interpolation of weak-type operators*, Linear Operators and Approximation, II (Proc. Conf., Math. Res. Inst., Oberwolfach, 1974), Birkhäuser, Basel, 1974, pp. 129–139. Internat. Ser. Numer. Math., Vol. 25. MR 52 #6396

November 15, 2002 Colin Bennett

20. *New and unsolved problems*, Linear Operators and Approximation, II (Proc. Conf., Math. Res. Inst., Oberwolfach, 1974), Birkhäuser, Basel, 1974, pp. 579–585. Internat. Ser. Numer. Math., Vol. 25. MR 51 #12450

21. ———, *Banach function spaces and interpolation methods. I. The abstract theory*, J. Functional Analysis **17** (1974), 409–440. MR 50 #14271

22. ———, *Intermediate spaces and the class* $\mathrm{L}\log^{+L}$, Ark. Mat. **11** (1973), 215–228. MR 50 #5452

23. Colin Bennett and John E. Gilbert, *Homogeneous algebras on the circle. II. Multipliers, Ditkin conditions*, Ann. Inst. Fourier (Grenoble) **22** (1972), 21–50. MR 49 #3547 (English, with French summary)

24. ———, *Homogeneous algebras on the circle. I. Ideals of analytic functions*, Ann. Inst. Fourier (Grenoble) **22** (1972), 1–19. MR 49 #3546 (English, with French summary)

25. Colin Bennett, *A Hausdorff-Young theorem for rearrangement-invariant spaces*, Pacific J. Math. **47** (1973), 311–328. MR 49 #3418

26. ———, *A pair of indices for function spaces on the circle*, Trans. Amer. Math. Soc. **174** (1972), 289–304. MR 48 #12024

27. ———, *Estimates for weak-type operators*, Bull. Amer. Math. Soc. **79** (1973), 933–935. MR 47 #9264

Susanne C. Brenner

Graduate Education: The University of Michigan
Ph.D. 1988 in Mathematics; Dissertation Advisor: L. Ridgway Scott
M.S. 1985 in Applied Mathematics

State University of New York at Stony Brook
M.A. 1982 in Mathematics

Undergraduate Education: West Chester State College
B.S.Ed. 1980 in Mathematics and German; summa cum laude

Professional Employment

Permanent Positions

1999–present	Professor	University of South Carolina, Columbia, SC
1993–1999	Associate Professor	University of South Carolina, Columbia, SC
1990–1993	Assistant Professor	Clarkson University, Potsdam, NY
1988–1989	Teaching Postdoc	Syracuse University, Syracuse, NY

Publications: 37 refereed articles (34 in print or in press; 3 submitted), 1 Book (First edition with 3 printings, Second edition)

Plenary Talks: 4

Invited Addresses And Seminars: 52 at 41 different institutions in 7 countries

Member, Editorial Boards: Mathematics of Computation, SIAM Journal on Numerical Analysis, Numerische Mathematik, Electronic Transactions on Numerical Analysis, Notices of the American Mathematical Society

Grant Support: NSF principal investigator 1989–1992, 1992–1996, 1996–2000, 2000-2003; NSF (co-PI) SCREMS 2000–2003

Doctoral Students: 1 completed, 1 in progress

Masters Students: 1 completed

Conference Organization: 3 conference organizing committees and 5 invited mini-symposia/special sessions

Office in Professional Society: 2

Refereeing and Reviewing: Referee for 18 journals, Reviewer for NSF (DMS and DUE), DOE, Nederlandse Organisatie voor Wetenschappelijk Onderzoek and Mathematical Reviews

The Publications of Susanne Brenner

Monographs

1. Susanne C. Brenner and L. Ridgway Scott, *The mathematical theory of finite element methods*, 2nd ed., Texts in Applied Mathematics, vol. 15, Springer-Verlag, New York, 2002, ISBN 0-387-95451-1. 1 894 376
2. _____, *The mathematical theory of finite element methods*, Texts in Applied Mathematics, vol. 15, Springer-Verlag, New York, 1994, ISBN 0-387-94193-2. MR 95f:65001

Articles

3. Susanne C. Brenner and L.-Y. Sung, *Multigrid methods for the computation of singular solutions and stress intensity factors III: Interface singularities* (Submitted).
4. Susanne C. Brenner, *Korn's inequalities of piecewise H^1 vector fields* (Submitted).
5. _____, *Convergence of nonconforming V-cycle and F-cycle multigrid algorithms for second order elliptic boundary value problems* (Submitted).
6. _____, *Poincaré-Friedrichs inequalities for piecewise H^1 functions*, SIAM J. Numer. Anal. (To Appear).
7. _____, *Smoothers, mesh dependent norms, interpolation and multigrid*, Applied Numerical Mathematics **43** (2002), 45–56.
8. _____, *An additive Schwarz preconditioner for the FETI method*, Numerische Mathematik (On-line), posted on July 18, 2002, DOI 10.1007/s002110100376, (to appear in print) (To Appear in Print).
9. Susanne C. Brenner and Q. He, *Lower bounds for three-dimensional nonoverlapping domain decomposition algorithms*, Numerische Mathematik (On-line), posted on January 30, 2002, DOI 10.1007/s002110100376, (to appear in print) (To Appear in Print).
10. Susanne C. Brenner, *A new look at FETI*, Proceedings of the Thirteenth International Conference on Domain Decomposition Methods, 2001, pp. 41–51.
11. _____, *Convergence of the multigrid V-cycle algorithm for second-order boundary value problems without full elliptic regularity*, Math. Comp. **71** (2002), 507–525 (electronic). 1 885 612
12. Faker Ben Belgacem and Susanne C. Brenner, *Some nonstandard finite element estimates with applications to 3D Poisson and Signorini problems*, Electron. Trans. Numer. Anal. **12** (2001), 134–148 (electronic). MR 2002c:65187
13. Susanne C. Brenner, *Lower bounds for two-level additive Schwarz preconditioners with small overlap*, SIAM J. Sci. Comput. **21** (2000), 1657–1669 (electronic), Iterative methods for solving systems of algebraic equations (Copper Mountain, CO, 1998). MR 2001j:65181
14. S. C. Brenner and L.-Y. Sung, *Discrete Sobolev and Poincaré inequalities via Fourier series*, East-West J. Numer. Math. **8** (2000), 83–92. MR 2001g:42003
15. Susanne C. Brenner and Li-Yeng Sung, *Lower bounds for nonoverlapping domain decomposition preconditioners in two dimensions*, Math. Comp. **69** (2000), 1319–1339. MR 2001a:65156
16. Susanne C. Brenner and Li-yeng Sung, *Balancing domain decomposition for nonconforming plate elements*, Numer. Math. **83** (1999), 25–52. MR 2000i:65208
17. Susanne C. Brenner, *The condition number of the Schur complement in domain decomposition*, Numer. Math. **83** (1999), 187–203. MR 2000g:65114
18. _____, *A nonstandard finite element interpolation estimate*, Numer. Funct. Anal. Optim. **20** (1999), 245–250. MR 2000b:65210
19. Susanne C. Brenner and Li-yeng Sung, *Lower bounds for two-level additive Schwarz preconditioners for nonconforming finite elements*, Advances in Computational Mathematics (Guangzhou, 1997), Lecture Notes in Pure and Appl. Math., vol. 202, Dekker, New York, 1999, pp. 585–604. MR 99j:65196
20. S. C. Brenner and L.-Y. Sung, *Multigrid methods for the computation of singular solutions and stress intensity factors. II. Crack singularities*, BIT **37** (1997), 623–643, Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). MR 99i:65139
21. Susanne C. Brenner, *Multigrid methods for the computation of singular solutions and stress intensity factors. I. Corner singularities*, Math. Comp. **68** (1999), 559–583. MR 99i:65138

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22. _____, *Overcoming corner singularities using multigrid methods*, SIAM J. Numer. Anal. **35** (1998), 1883–1892 (electronic). MR 99f:65189

23. _____, *Convergence of nonconforming multigrid methods without full elliptic regularity*, Math. Comp. **68** (1999), 25–53. MR 99c:65229

24. _____, *A two-level additive Schwarz preconditioner for nonconforming plate elements*, Numer. Math. **72** (1996), 419–447. MR 97h:65147

25. _____, *Two-level additive Schwarz preconditioners for plate elements*, Wuhan University Journal of Natural Sciences **1** (1996), 658–667.

26. _____, *Preconditioning complicated finite elements by simple finite elements*, SIAM J. Sci. Comput. **17** (1996), 1269–1274. MR 97g:65226

27. _____, *Multigrid methods for parameter dependent problems*, RAIRO Modél. Math. Anal. Numér. **30** (1996), 265–297. MR 97c:73076 (English, with English and French summaries)

28. _____, *A two-level additive Schwarz preconditioner for macro-element approximations of the plate bending problem*, Houston J. Math. **21** (1995), 823–844. MR 96k:73077

29. _____, *Two-level additive Schwarz preconditioners for nonconforming finite element methods*, Math. Comp. **65** (1996), 897–921. MR 96j:65117

30. _____, *A two-level additive Schwarz preconditioner for the stationary Stokes equations*, Adv. Comput. Math. **4** (1995), 111–126. MR 96d:76056

31. _____, *Two-level additive Schwarz preconditioners for nonconforming finite elements*, Domain Decomposition Methods in Scientific and Engineering Computing (University Park, PA, 1993), Contemp. Math., vol. 180, Amer. Math. Soc., Providence, RI, 1994, pp. 9–14. MR 95j:65134

32. _____, *A nonconforming mixed multigrid method for the pure traction problem in planar linear elasticity*, Math. Comp. **63** (1994), 435–460, S1–S5. MR 95c:73076

33. _____, *A nonconforming mixed multigrid method for the pure displacement problem in planar linear elasticity*, SIAM J. Numer. Anal. **30** (1993), 116–135. MR 93m:65166

34. _____, *A multigrid algorithm for the lowest-order Raviart-Thomas mixed triangular finite element method*, SIAM J. Numer. Anal. **29** (1992), 647–678. MR 93j:65175

35. Susanne C. Brenner and Li-Yeng Sung, *Linear finite element methods for planar linear elasticity*, Math. Comp. **59** (1992), 321–338. MR 93a:73078

36. Susanne C. Brenner, *Multigrid methods for nonconforming finite elements*, Proceedings of the Fourth Copper Mountain Conference on Multigrid Methods (Copper Mountain, CO, 1989), SIAM, Philadelphia, PA, 1989, pp. 54–65. MR 91h:65189

37. _____, *A nonconforming multigrid method for the stationary Stokes equations*, Math. Comp. **55** (1990), 411–437. MR 91d:65167

38. _____, *An optimal-order nonconforming multigrid method for the biharmonic equation*, SIAM J. Numer. Anal. **26** (1989), 1124–1138. MR 90i:65189

39. _____, *An optimal-order multigrid method for* $\mathrm{P1}$ *nonconforming finite elements*, Math. Comp. **52** (1989), 1–15. MR 89f:65119

Ronald A. DeVore

Graduate Education: Ohio State University
Ph.D. 1967 in Mathematics; Thesis Advisor: Ranko Bojanic

Undergraduate Education: Eastern Michigan University, B.S. 1964 in Mathematics

Professional Employment

Permanent Positions

1999–present	Director, Industrial Mathematics Inst.	Univ. of South Carolina, Columbia, SC
1986–present	Robert L. Sumwalt Chaired Professor	Univ. of South Carolina, Columbia, SC
1977–86	Professor	Univ. of South Carolina, Columbia, SC
1974–77	Professor	Oakland University, Oakland, CA
1970–74	Associate Professor	Oakland University, Oakland, CA
1968–70	Assistant Professor	Oakland University, Oakland, CA

Visiting Positions

2002	Spring	RWTH, Aachen, Germany
1997–98	Fall–Spring	Princeton University
1996	Spring	University of Paris VI
1990	Fall	Purdue University
1991	Spring	University of Wisconsin
1985	Summer	University of Wisconsin
1984	Summer	Scuola Normala di Pisa
1983–84	Fall–Spring	University of Wisconsin
1983	Spring	Texas A&M University
1977–78–79	Summers	Universität Bonn
1975–76	Fall–Spring	Universität Erlangen–Nürnberg
1971–72	Fall–Spring	University of Alberta
1967–68	Fall–Spring	Ohio State University

Awards and Honors

2002	Alexander von Humboldt Research Prize, RWTH-Aachen, Germany
2001	Elected to American Academy of Arts & Sciences
1975–76	Alexander von Humboldt Research Fellowship, Erlangen, Germany
1964–67	NDEA Fellow

Publications: 119 Research Articles, 3 Monographs, 6 Expository Articles, and 2 Book Reviews.

Invited Addresses And Seminars: Over 150 colloquia and 80 international conferences including American Mathematical Society Invited Address (1990), SIAM Invited Addresses (1992, 2000), Canadian Mathematical Society Invited Address (1994).

Doctoral Students: 7 completed

Masters Students: 3 completed

Grant Support: AFOSR, ARO, NATO, DARPA, ONR, DOD, ONR/DEPSCoR, and NSF.

Conference Organizing or Program Committees: 10 international conferences and 5 regional conferences.

Editing, Refereeing, and Reviewing: Editor in Chief, Constructive Approximation; Editorial Board Member for 7 journals.

Service on Other Professional Panels: AMS Southeastern Section Program Committee, Chair (2000-2002); Foundations of Computational Mathematics (FOCM), Chair (2000-2002); IPAM (UCLA), Scientific Advisory Board (1999-present); AMS Nominating Committee (1986-1988).

November 15, 2002 Ronald A. DeVore

The Publications of Ronald DeVore

Books and Memoirs, Authored or Edited

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4. **Ronald A. DeVore and Karl Scherer (eds.),** *Quantitative approximation*, Proceedings of an International Symposium Held in Bonn, August 20–24, 1979, Academic Press Inc. [Harcourt Brace Jovanovich Publishers], New York, 1980, ISBN 0-12-213650-0. MR 81i:41001
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Articles

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7. R. A. DeVore, A. Petukhov, and R. C. Sharpley, *Motion Estimation with the Redundant Wavelet Transform* (November 2002), Proceedings of the International Workshop on Digital and Computational Video.
8. P. Binev, W. Dahmen, and R. A. DeVore, *Adaptive Finite Element Methods with Convergence Rates* (preprint).
9. P. Binev and R. A. DeVore, *Fast Computation in Adaptive Tree Approximation* (November 2002) (University of South Carolina IMI Preprint).
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Conference Organizing or Program Committees: 1 regional meeting and 2 special sessions for the American Mathematical Society.

The Publications of Stephen Dilworth

1. S. J. Dilworth, Denka Kutzaarova, and V. N. Temlyakov, *convergence of some greedy algorithms in Banach spaces*, J. Fourier Anal. Appl. **8** (2002), 489–505.
2. S. J. Dilworth, N. J. Kalton, and Denka Kutzarova, *Greedy bases in Banach spaces* (2002), 133–135.
3. S. J. Dilworth, Denka Kutzarova, and S. L. Troyanski, *On some uniform geometric properties in function spaces*, General Topology in Banach Spaces, Nova Sci. Publ., Huntington, NY, 2001, pp. 127–135. 1 901 540
4. S. J. Dilworth, Denka Kutzarova, and P. Wojtaszczyk, *On approximate l_1 systems in Banach spaces*, J. Approx. Theory **114** (2002), 214–241. MR 2002k:46024
5. S. J. Dilworth and Denka Kutzarova, *On the optimality of a theorem of Elton on l_1^n subsystems*, Israel J. Math. **124** (2001), 215–220. MR 2002h:46019
6. S. J. Dilworth and Maria Girardi, *On various modes of scalar convergence in $L_0(\mathfrak{X})$*, J. Math. Anal. Appl. **259** (2001), 660–684. MR 2002d:46034
7. S. J. Dilworth and David Mitra, *A conditional quasi-greedy basis of l_1*, Studia Math. **144** (2001), 95–100. MR 2002b:46018
8. Paul Abraham, John Alexopoulos, and S. J. Dilworth, *On the convergence in mean of martingale difference sequences*, Quaest. Math. **23** (2000), 193–202. MR 2001k:60042
9. S. J. Dilworth, Maria Girardi, and W. B. Johnson, *Geometry of Banach spaces and biorthogonal systems*, Studia Math. **140** (2000), 243–271. MR 2001i:46013
10. S. J. Dilworth, Ralph Howard, and James W. Roberts, *On the size of approximately convex sets in normed spaces*, Studia Math. **140** (2000), 213–241. MR 2001h:46010
11. Stephen J. Dilworth, Maria Girardi, and James Hagler, *Dual Banach spaces which contain an isometric copy of L_1*, Bull. Polish Acad. Sci. Math. **48** (2000), 1–12. MR 2001e:46016
12. S. J. Dilworth, Ralph Howard, and James W. Roberts, *Extremal approximately convex functions and estimating the size of convex hulls*, Adv. Math. **148** (1999), 1–43. MR 2001c:26015
13. N. L. Carothers, S. J. Dilworth, and David Sobecki, *Splittings of Banach spaces induced by Clifford algebras*, Proc. Amer. Math. Soc. **128** (2000), 1347–1356. MR 2000j:46021
14. S. J. Dilworth, *Approximate isometries on finite-dimensional normed spaces*, Bull. London Math. Soc. **31** (1999), 471–476. MR 2000h:46008
15. ———, *On the extensibility of certain homeomorphisms and linear isometries*, Function Spaces (Edwardsville, IL, 1998), Contemp. Math., vol. 232, Amer. Math. Soc., Providence, RI, 1999, pp. 119–130. MR 2000g:46030
16. ———, *Intersections of centred sets in normed spaces*, Far East J. Math. Sci. (1998), 129–136. MR 2000a:46013
17. S. J. Dilworth and David Sobecki, *On hereditariness for real and complex interpolation*, Far East J. Math. Sci. **5** (1997), 91–98. MR 98c:46159
18. S. J. Dilworth and Maria Girardi, *An application the the Pettis integral of a factorization theorem of Pisier*, Seminaire Initiation a l'Analyse 1994–95, Publications Mathematiques de l'Universite Pierre et Marie Curie, 1996.
19. S. J. Dilworth and Yu-Ping Hsu, *On a property of Kadec-Klee type for quasi-normed unitary matrix spaces*, Far East J. Math. Sci. (1996), 183–194. MR 98a:46021
20. S. J. Dilworth and C. J. Lennard, *Uniform Kadec-Klee Lorentz spaces $L_{w,1}$ and uniformly concave functions*, Canad. Math. Bull. **39** (1996), 266–274. MR 97i:46054
21. S. J. Dilworth and Yu-Ping Hsu, *The uniform Kadec-Klee property for the Lorentz spaces $L_{w,1}$*, J. Austral. Math. Soc. Ser. A **60** (1996), 7–17. MR 96k:46042
22. S. J. Dilworth and A. L. Koldobsky, *The Fourier transform of order statistics with applications to Lorentz spaces*, Israel J. Math. **92** (1995), 411–425. MR 96k:46041
23. N. L. Carothers, S. J. Dilworth, and C. J. Lennard, *On a localization of the UKK property and the fixed point property in $L_{w,1}$*, Interaction between Functional Analysis, Harmonic Analysis, and Probability (Columbia, MO, 1994), Lecture Notes in Pure and Appl. Math., vol. 175, Dekker, New York, 1996, pp. 111–124. MR 96k:46040
24. S. J. Dilworth and Denka Kutzarova, *Kadec-Klee properties for $L(l_p, l_q)$*, Function Spaces (Edwardsville, IL, 1994), Lecture Notes in Pure and Appl. Math., vol. 172, Dekker, New York, 1995, pp. 71–83. MR 96k:46023
25. S. J. Dilworth and Maria Girardi, *Nowhere weak differentiability of the Pettis integral*, Quaestiones Math. **18** (1995), 365–380. MR 96i:28012

November 15, 2002 Stephen James Dilworth

26. S. J. Dilworth, Maria Girardi, and Denka Kutzarova, *Banach spaces which admit a norm with the uniform Kadec-Klee property*, Studia Math. **112** (1995), 267–277. MR 96a:46023
27. M. Besbes, S. J. Dilworth, P. N. Dowling, and C. J. Lennard, *New convexity and fixed point properties in Hardy and Lebesgue-Bochner spaces*, J. Funct. Anal. **119** (1994), 340–357. MR 95c:46015
28. S. J. Dilworth and S. J. Montgomery-Smith, *The distribution of vector-valued Rademacher series*, Ann. Probab. **21** (1993), 2046–2052. MR 94i:60027
29. S. J. Dilworth and Maria Girardi, *Bochner vs. Pettis norm: examples and results*, Banach Spaces (Mérida, 1992), Contemp. Math., vol. 144, Amer. Math. Soc., Providence, RI, 1993, pp. 69–80. MR 94d:46040
30. S. J. Dilworth, *Some probabilistic inequalities with applications to functional analysis*, Banach Spaces (Mérida, 1992), Contemp. Math., vol. 144, Amer. Math. Soc., Providence, RI, 1993, pp. 53–67. MR 94d:46029
31. ———, *A note on the valuation of contingent claims*, Econmom. Letter **39** (1992).
32. N. L. Carothers, S. J. Dilworth, and D. A. Trautman, *On the geometry of the unit spheres of the Lorentz spaces* $L_{w,1}$, Glasgow Math. J. **34** (1992), 21–25. MR 92k:46039
33. S. J. Dilworth, *A weak topology characterization of* $l_1(m)$, Geometry of Banach Spaces (Strobl, 1989), London Math. Soc. Lecture Note Ser., vol. 158, Cambridge Univ. Press, Cambridge, 1990, pp. 89–94. MR 92e:46041
34. N. L. Carothers and S. J. Dilworth, *Some Banach space embeddings of classical function spaces*, Bull. Austral. Math. Soc. **43** (1991), 73–77. MR 92c:46028
35. N. L. Carothers, S. J. Dilworth, C. J. Lennard, and D. A. Trautman, *A fixed point property for the Lorentz space* $L_{p,1}(\mu)$, Indiana Univ. Math. J. **40** (1991), 345–352. MR 92b:46030
36. S. J. Dilworth, *A scale of linear spaces related to the* L_p *scale*, Illinois J. Math. **34** (1990), 140–158. MR 90m:46047
37. ———, *Convergence of martingales, subsequences, and Hilbertian subspaces of uniformly convex spaces*, Texas Functional Analysis Seminar 1985–1986 (Austin, TX, 1985–1986), Longhorn Notes, Univ. Texas, Austin, TX, 1986, pp. 135–150. MR 90h:60004
38. N. L. Carothers and S. J. Dilworth, *Equidistributed random variables in* $L_{p,q}$, J. Funct. Anal. **84** (1989), 146–159. MR 90g:46045
39. ———, *Geometry of Lorentz spaces via interpolation*, Texas Functional Analysis Seminar 1985–1986 (Austin, TX, 1985–1986), Longhorn Notes, Univ. Texas, Austin, TX, 1986, pp. 107–134. MR 90g:46044
40. ———, *Inequalities for sums of independent random variables*, Proc. Amer. Math. Soc. **104** (1988), 221–226. MR 90f:60005
41. S. J. Dilworth and D. A. Trautman, *On two function spaces which are similar to* L_0, Proc. Amer. Math. Soc. **108** (1990), 451–456. MR 90f:46047
42. S. J. Dilworth, *Involutions on Banach spaces and reflexivity*, Houston J. Math. **14** (1988), 179–190. MR 90f:46024
43. N. L. Carothers and S. J. Dilworth, *Subspaces of* $L_{p,q}$, Proc. Amer. Math. Soc. **104** (1988), 537–545. MR 89m:46051
44. S. J. Dilworth and T. J. Ransford, *Spectra in quasi-Banach algebras*, Functional Analysis (Austin, TX, 1986–87), Lecture Notes in Math., vol. 1332, Springer, Berlin, 1988, pp. 175–178. MR 89k:46062
45. S. J. Dilworth, *Intersection of Lebesgue spaces* L_1 *and* L_2, Proc. Amer. Math. Soc. **103** (1988), 1185–1188. MR 89k:46032
46. ———, *Interpolation of intersections of* L_p *spaces*, Arch. Math. (Basel) **50** (1988), 51–55. MR 89e:46030
47. ———, *Convergence of series of scalar- and vector-valued random variables and a subsequence principle in* L_2, Trans. Amer. Math. Soc. **301** (1987), 375–384. MR 88d:60028
48. ———, *Isometric results on a measure of noncompactness for operators on Banach spaces*, Bull. Austral. Math. Soc. **35** (1987), 27–33. MR 88d:47023
49. ———, *Complex convexity and the geometry of Banach spaces*, Math. Proc. Cambridge Philos. Soc. **99** (1986), 495–506. MR 87k:46032
50. Stephen Dilworth and Stanisław Szarek, *The cotype constant and an almost Euclidean decomposition for finite-dimensional normed spaces*, Israel J. Math. **52** (1985), 82–96. MR 87e:46020
51. S. J. Dilworth, *Universal noncompact operators between super-reflexive Banach spaces and the existence of a complemented copy of Hilbert space*, Israel J. Math. **52** (1985), 15–27. MR 87c:46019
52. ———, *On the dimension of almost Hilbertian subspaces of quotient spaces*, J. London Math. Soc. (2) **30** (1984), 481–485. MR 87c:46018

53. _____, *The dimension of Euclidean subspaces of quasinormed spaces*, Math. Proc. Cambridge Philos. Soc. **97** (1985), 311–320. MR 86b:46003

54. _____, *Special Banach lattices and their applications*, Handbook of the Geometry of Banach Spaces, Vol. I, North-Holland, Amsterdam, 2001, pp. 497–532. 1 863 700

Daniel B. Dix

Graduate Education: University of Chicago
Ph.D. August 1988 in Mathematics; Thesis Advisor: Charles J. Amick
S.M. August 1984 in Mathematics

Undergraduate Education: University of South Alabama
B.S. June 1967 in Mathematics, Summa Cum Laude. Phi Kappa Phi.

Professional Employment

Permanent Positions

1997–present	Associate Professor	University of South Carolina, Columbia, SC
1991–1997	Assistant Professor	University of South Carolina, Columbia, SC

Postdoctoral Positions

1989–1991	Postdoctoral Scholar	Pennsylvania State University, University Park, PA
1988-1989	Postdoctoral Member	Institute for Mathematics and it Applications, Minneapolis, MN

1996	Mortar board Excellence in Teaching Award
1980–1984	National Science Foundation Graduate Fellowship

Publications: 9 (1 monograph, 7 articles in print or in press and 1 submitted.)

Invited Addresses and External Colloquia/Seminars: 12 invited conference addresses and 4 colloquia or seminars at 13 different institutions in 2 countries.

Masters Students: 2 completed.

Refereeing, and Reviewing: Referee for 13 professional journals, proposal reviewer for the National Science Foundation.

The Publications of Daniel Dix

Monograph

1. Daniel B. Dix, *Large-time behavior of solutions of linear dispersive equations*, Lecture Notes in Mathematics, vol. 1668, Springer-Verlag, Berlin, 1997, ISBN 3-540-63434-7. MR 98m:35017

Articles

2. _____, *Polyspherical coordinate systems on orbit spaces with application to biomolecular conformation*, Discrete and Computational Geometry (submitted).
3. Daniel B. Dix, B. Dunlap, T. Felder, and T. Spencer, *Difference in natural ligand and flouropyrimidine binding to human thymidyate sythases identified by transient-state spectroscopic and continuous variation methods*, Biochimica et Biophysica Acta (to appear).
4. Daniel B. Dix, *Large-time behavior of solutions of Burger's Equation*, Proceedings of the Royal Society of Edinburgh (to appear).
5. Daniel B. Dix and William R. McKinney, *Numerical computations of self-similar blow-up solutions of the generalized Korteweg-de Vries equation*, Differential Integral Equations **11** (1998), 679–723. MR 2000a:65127
6. Daniel B. Dix, *Nonuniqueness and uniqueness in the initial-value problem for Burgers' equation*, SIAM J. Math. Anal. **27** (1996), 708–724. MR 97c:35174
7. _____, *Applications of Clifford analysis to inverse scattering for the linear hierarchy in several space dimensions*, Clifford Algebras in Analysis and Related Topics (Fayetteville, AR, 1993), Stud. Adv. Math., CRC, Boca Raton, FL, 1996, pp. 261–284. MR 97a:35003
8. _____, *The dissipation of nonlinear dispersive waves: the case of asymptotically weak nonlinearity*, Comm. Partial Differential Equations **17** (1992), 1665–1693. MR 93k:35041
9. _____, *Temporal asymptotic behavior of solutions of the Benjamin-Ono-Burgers equation*, J. Differential Equations **90** (1991), 238–287. MR 92c:35104

November 15, 2002 Daniel D. Dix

Michael Filaseta

Graduate Education: University of Illinois at Champaign-Urbana
Ph.D. June 1984 in Mathematics; Thesis Advisor: Heini Halberstam

Undergraduate Education: University of Arizona
B.A. June 1980 in Mathematics.

Professional Employment

Permanent Positions

1995–present	Professor	University of South Carolina, Columbia, SC
1989–95	Associate Professor	University of South Carolina, Columbia, SC
1984–89	Assistant Professor	University of South Carolina, Columbia, SC

Awards and Honors

1994	Mortar Board Excellence in Teaching Award, University of South Carolina
1991	The Distinguished Award of the Hardy-Ramanujan Society
1985–86	Research and Productive Scholarship Grant, University of South Carolina
1980–82	University Fellowship, University of Illinois

Publications: 47 (45 articles in print or in press; 2 submitted or in preparation).

Invited Addresses And External Colloquia/Seminars: 37 at 28 different institutions in 6 countries.

Doctoral Students: 5 completed and 2 in progress.

Masters Students: 13 completed and 2 in progress.

Grant Support: NSF operating research grants: 1989–91, 94–97, 2002–2005. NSA operating research grants: 1992–94, 97–2000. Two NSF SCREMS grants.

Conference Organizing or Program Committees: 2 international conferences and 2 regional conferences.

Program Organization: A 2002 MSRI Summer Graduate Program held at Simon Fraser University (joint with Peter Borwein).

Editing, Refereeing, and Reviewing: Spectrum Editorial Board for the MAA (2001–present); Collaborating Editor for the Problem Section of the Mathematical Monthly (1991–97); Referee for 14 professional journals. Reviewer for Mathematical Reviews.

Service on Professional Panels: Grader for the William Lowell Putnam Competition in 1996, 1997, 1999, All-State High School Mathematics Selection Committee from 1900–present.

The Publications of Michael Filaseta

1. Michael Filaseta and Douglas Meade, *Irreducibility testing of lacunary 0,1-polynomials* (submitted).
2. Michael Filaseta and Andrzej Schinzel, *On testing the divisibility of lacunary polynomials by cyclotomic polynomials* (submitted).
3. Martha Allen and Michael Filaseta, *A generalization of a second irreducibility theorem of I. Schur*, Acta Arith. (to appear).
4. Michael Filaseta and Richard Williams, *On the irreducibility of a certain class of Laguerre polynomials*, J. Number Theory (to appear).
5. M. Filaseta and T.-Y. Lam, *On the irreducibility of the generalized Laguerre polynomials*, Acta Arith. **105** (2002), 177–182.
6. Michael Filaseta, *On coverings of the integers associated with an irreducibility theorem of A. Schinzel*, Number Theory for the Millennium, Vol. 2, A. K. Peters, Natick, Massachusetts, 2002, pp. 1–24.
7. Michael Filaseta and Ognian Trifonov, *The irreducibility of the Bessel polynomials*, Journal für die reine und angewandte Mathematik **550** (2002), 125–140.
8. Arnold Adelberg and Michael Filaseta, *On mth order Bernoulli polynomials of degree m that are Eisenstein*, Colloquium Mathematicum **93** (2002), 21–26.
9. Brian Beasley and Michael Filaseta, *A distribution problem for powerfree values of irreducible polynomials*, Period. Math. Hungar. **42** (2001), 123–144. MR 2002i:11091
10. M. Filaseta, K. Ford, and S. Konyagin, *On an irreducibility theorem of A. Schinzel associated with coverings of the integers*, Illinois J. Math. **44** (2000), 633–643. MR 2001g:11032
11. A. Borisov, M. Filaseta, T. Y. Lam, and O. Trifonov, *Classes of polynomials having only one non-cyclotomic irreducible factor*, Acta Arith. **90** (1999), 121–153. MR 2000k:11117
12. Michael Filaseta and Ognian Trifonov, *The distribution of fractional parts with applications to gap results in number theory*, Proc. London Math. Soc. (3) **73** (1996), 241–278. MR 2000i:11110
13. Michael Filaseta, *On the factorization of polynomials with small Euclidean norm*, Number Theory in Progress, Vol. 1 (Zakopane-Kościelisko, 1997), de Gruyter, Berlin, 1999, pp. 143–163. MR 2000c:11177
14. Michael Filaseta and Ikhalfani Solan, *An extension of a theorem of Ljunggren*, Math. Scand. **84** (1999), 5–10. MR 2000b:11116
15. J. Browkin, M. Filaseta, G. Greaves, and A. Schinzel, *Squarefree values of polynomials and the abc-conjecture*, Sieve Methods, Exponential Sums, and Their Applications in Number Theory (Cardiff, 1995), London Math. Soc. Lecture Note Ser., vol. 237, Cambridge Univ. Press, Cambridge, 1997, pp. 65–85. MR 99d:11101
16. Michael Filaseta and Sergeĭ Konyagin, *On a limit point associated with the abc-conjecture*, Colloq. Math. **76** (1998), 265–268. MR 99b:11029
17. Michael Filaseta and Ikhalfani Solan, *Norms of factors of polynomials*, Acta Arith. **82** (1997), 243–255. MR 98k:11022
18. Michael Filaseta, *The smallest maximal set of pairwise disjoint partitions*, Number Theory (New York, 1991–1995), Springer, New York, 1996, pp. 103–113. MR 98a:11135
19. _____, *A generalization of an irreducibility theorem of I. Schur*, Analytic Number Theory, Vol. 1 (Allerton Park, IL, 1995), Progr. Math., vol. 138, Birkhäuser Boston, Boston, MA, 1996, pp. 371–396. MR 97g:11025
20. _____, *The irreducibility of all but finitely many Bessel polynomials*, Acta Math. **174** (1995), 383–397. MR 97b:11034
21. Michael Filaseta and Sergei Konyagin, *Squarefree values of polynomials all of whose coefficients are 0 and 1*, Acta Arith. **74** (1996), 191–205. MR 97a:11039
22. Michael Filaseta and Ognian Trifonov, *The distribution of squarefull numbers in short intervals*, Acta Arith. **67** (1994), 323–333. MR 95k:11116
23. Michael Filaseta, *Powerfree values of binary forms*, J. Number Theory **49** (1994), 250–268. MR 95i:11102
24. Michael Filaseta, M. L. Robinson, and Ferrell S. Wheeler, *The minimal Euclidean norm of an algebraic number is effectively computable*, J. Algorithms **16** (1994), 309–333. MR 95a:11093
25. Michael Filaseta, *On the distribution of gaps between squarefree numbers*, Mathematika **40** (1993), 88–101. MR 94m:11106
26. M. Filaseta and S. W. Graham, *An estimate for the number of reducible Bessel polynomials of bounded degree*, Colloq. Math. **65** (1993), 65–68. MR 94h:11100

November 15, 2002 Michael Filaseta

27. Michael Filaseta, *Short interval results for k-free values of irreducible polynomials*, Acta Arith. **64** (1993), 249–270. MR 94f:11090

28. R. Blecksmith, M. Filaseta, and C. Nicol, *A result on the digits of a^n*, Acta Arith. **64** (1993), 331–339. MR 94d:11005

29. Michael Filaseta and Ognian Trifonov, *On gaps between squarefree numbers. II*, J. London Math. Soc. (2) **45** (1992), 215–221. MR 93h:11103

30. Michael Filaseta, *Squarefree values of polynomials*, Acta Arith. **60** (1992), 213–231. MR 92m:11097

31. _____, *On an irreducibility theorem of I. Schur*, Acta Arith. **58** (1991), 251–272. MR 92h:11088

32. Michael Filaseta and Ognian Trifonov, *On gaps between squarefree numbers*, Analytic Number Theory (Allerton Park, IL, 1989), Progr. Math., vol. 85, Birkhäuser Boston, Boston, MA, 1990, pp. 235–253. MR 92a:11105

33. Michael Filaseta, *Rouché's theorem for polynomials*, Amer. Math. Monthly **97** (1990), 834–835. MR 91k:30009

34. Michael A. Filaseta and David R. Richman, *Sets which contain a quadratic residue modulo p for almost all p*, Math. J. Okayama Univ. **31** (1989), 1–8. MR 91i:11004

35. Michael Filaseta, *Short interval results for squarefree numbers*, J. Number Theory **35** (1990), 128–149. MR 91h:11092

36. _____, *An elementary approach to short interval results for k-free numbers*, J. Number Theory **30** (1988), 208–225. MR 89k:11083

37. _____, *Irreducibility criteria for polynomials with nonnegative coefficients*, Canad. J. Math. **40** (1988), 339–351. MR 89h:12002

38. _____, *Prime values of irreducible polynomials*, Acta Arith. **50** (1988), 133–145. MR 89g:11079

39. _____, *The irreducibility of almost all Bessel polynomials*, J. Number Theory **27** (1987), 22–32. MR 89a:11105

40. _____, *Sets with elements summing to squarefree numbers*, C. R. Math. Rep. Acad. Sci. Canada **9** (1987), 243–246. MR 88h:11009

41. _____, *Newton's method and simple continued fractions*, Fibonacci Quart. **24** (1986), 41–46. MR 88c:40003

42. _____, *A new method for solving a class of ballot problems*, J. Combin. Theory Ser. A **39** (1985), 102–111. MR 86m:05010

43. _____, *A further generalization of an irreducibility theorem of A. Cohn*, Canad. J. Math. **34** (1982), 1390–1395. MR 85g:11014

44. _____, *An application of Faltings' results to Fermat's last theorem*, C. R. Math. Rep. Acad. Sci. Canada **6** (1984), 31–33. MR 85c:11030

45. John Brillhart, Michael Filaseta, and Andrew Odlyzko, *On an irreducibility theorem of A. Cohn*, Canad. J. Math. **33** (1981), 1055–1059. MR 83c:12003

46. Michael Filaseta, *On evaluating the Legendre symbol*, Pi Mu Epsilon Journal **7** (1980), 165–168.

47. _____, *War without end*, Math. Mag. **51** (1978), 256.

Mohammad Ghomi

Graduate Education: Johns Hopkins University
Ph.D. 1998 in Mathematics; Thesis Advisor: Joel Spruck

Undergraduate Education: Johns Hopkins University
B.A.1992

Professional Employment

Permanent Position

2000–present	Assistant Professor	University of South Carolina, Columbia, SC

Postdoctoral Position

1998–2000	Visiting Assistant Professor	University of California at Santa Cruz, Santa Cruz, CA

Awards and Honors

1992 J. J. Sylvester Prize in Mathematics, Johns Hopkins University
2000 Clay Mathematical Institute/M.S.R.I. Summer Fellowship

Publications: 15 (9 articles in print or in press; 2 submitted; 4 in preparation).

Invited Addresses and Seminars: 24 at 20 different institutions.

Grant Support: NSF Research Grant (DMS-0204190, $97000) for 2002–2005.

Conference Organizing or Program Committees: 1 Special Session for the American Mathematical Society.

Editing, Refereeing, and Reviewing: Referee for 5 mathematical journals and reviewer for Mathematical Reviews.

November 15, 2002 Mohammad Ghomi

The Publications of Mohammed Ghomi

1. Mohammad Ghomi, *A lower bound for distortion of knots* (In Progress).
2. Mohammad Ghomi and Ralph E. Howard, *Unfoldings of space curves* (In Progress).
3. Mohammad Ghomi, *Topology of surfaces with connected shades* (In Prgoress).
4. _____, *Intersecting tangents of Euclidean submanifolds* (Preprint).
5. _____, *A smooth convex loop with vanishing projections* (Submitted).
6. S. Alexander and Mohammad Ghomi, *The convex hull property of noncompact surfaces* (Submitted).
7. A Abrams, J. Cantarella, Fu. J., Mohammad Ghomi, and Ralph E. Howard, *Circles minimize most knot energies*, Topology (To Appear).
8. Mohammad Ghomi and R. Solomon, *Skew loops and quadric surfaces*, Comment. Math. Helv. (to Appear).
9. S. Alexander and Mohammad Ghomi, *The convex hull property and topology of hypersurfaces with nonnegative curvature*, Adv. Math. (To Appear).
10. Mohammad Ghomi, *Optimal smoothing for convex polytopes*, Bull. London Math. Soc. (To Appear).
11. _____, *Solution to the shadow problem in 3-space, in Minimal Surfaces, Geometric Analysis and Symplectic Geometry*, Adv. Stud. Pure Math. **34** (2002), 29–142.
12. _____, *Shadows and convexity of surfaces*, Ann. of Math. (2) **155** (2002), 281–293. 1 888 801
13. _____, *The problem of optimal smoothing for convex functions*, Proc. Amer. Math. Soc. **130** (2002), 2255–2259 (electronic). 1 896 406
14. _____, *Strictly convex submanifolds and hypersurfaces of positive curvature*, J. Differential Geom. **57** (2001), 239–271. MR 2002k:52001
15. _____, *Gauss map, topology, and convexity of hypersurfaces with nonvanishing curvature*, Topology **41** (2002), 107–117. MR 2002j:53013

November 15, 2002 Mohammad Ghomi

Maria Girardi

Graduate Education: University of Illinois at Urbana-Champaign
Ph.D. May 1990 in Mathematics; Thesis Advisor: J. Jerry Uhl

Undergraduate Education: Santa Clara University, Santa Clara, California
B.S. June 1984 in Mathematics, graduated in 3 years with Cum Laude Honors

Professional Employment

Permanent Positions

1996 – present	Associate Professor (mathematics)	University of South Carolina, Columbia, SC
1990 – 1996	Assistant Professor (mathematics)	University of South Carolina, Columbia, SC

Research Fellowships

AY 01–02	Alexander von Humboldt Foundation	Universität Karlsruhe, Germany
AY 00–01	Alexander von Humboldt Foundation	Universität Karlsruhe, Germany
Spring 96	Mathematical Sciences Research Institute	Berkeley
AY 90–91	Institut de Calcul Mathématique	Paris

Visiting Professorship

AY 01–02	Universität Karlsruhe, Germany

Awards and Honors

2000–2002	Alexander von Humboldt Research Fellowship
Summers: 1992 – 2001	NSF Workshops in Linear Analysis and Probability (invited participant)
Spring 1996	Mathematical Sciences Research Institute (invited participant and member)
AY 93–94	Lilly Teaching Fellows Program, Junior Fellow
1989 – 1990	University Fellowship, University of Illinois

Publications: 23 (21 articles in print or in press; 1 article submitted; 1 article in preparation).

Invited Addresses, External Colloquia/Seminars: 74 at 44 different institutions in 12 countries.

Post-Doctoral Fellows: 1 in progress.

Doctoral Students: 1 completed and 1 in progress.

Masters Students: 1 completed.

Undergraduate Reseach Students: 2 completed.

Grant Support: Humboldt Research Fellowship Grant: 2000 – 2001, 2001 – 2002. NSF Research Grant: 1992, 1993 – 1996, 1996 – 1999. NSF-AWM Travel Grant: 1992 – 1993. (PI on all)

Conference Organizing Committees: 2 international conferences and 5 regional conferences.

Refereeing and Reviewing: Referee for 15 professional journals. Grant reviewer for 2 funding agencies. Book reviewer for 3 publishers.

November 15, 2002 Maria Girardi

The Publications of Maria Girardi

1. Maria Girardi and Lutz Weis, *Integral operators with operator-valued kernels* (in preparation).
2. _____, *Operator-valued Fourier multiplier theorems on $L_p(X)$ and geometry of Banach spaces* (submitted).
3. _____, *Criteria for R-boundedness of operator families*, Recent Contributions to Evolution Equations, Lecture Notes in Math., Marcel Dekker (to appear).
4. _____, *Vector-valued extensions of some classical theorems in harmonic analysis*, Analysis and Applications - ISAAC 2001 (H. G. W. Begehr, R. P. Gilbert, and M. W. Wong, eds.), Kluwer, Dordrecht (to appear).
5. _____, *Operator-valued Fourier multiplier theorems on Besov spaces*, Mathematische Nachrichten (to appear).
6. Maria Girardi, *The dual of the James tree space is asymptotically uniformly convex*, Studia Math. **147** (2001), 119–130. MR 2002j:46018
7. S. J. Dilworth and Maria Girardi, *On various modes of scalar convergence in $L_0(\mathfrak{X})$*, J. Math. Anal. Appl. **259** (2001), 660–684. MR 2002d:46034
8. S. J. Dilworth, Maria Girardi, and W. B. Johnson, *Geometry of Banach spaces and biorthogonal systems*, Studia Math. **140** (2000), 243–271. MR 2001i:46013
9. Stephen J. Dilworth, Maria Girardi, and James Hagler, *Dual Banach spaces which contain an isometric copy of L_1*, Bull. Polish Acad. Sci. Math. **48** (2000), 1–12. MR 2001e:46016
10. Maria Girardi and Wim Sweldens, *A new class of unbalanced Haar wavelets that form an unconditional basis for L_p on general measure spaces*, J. Fourier Anal. Appl. **3** (1997), 457–474. MR 98m:42049
11. Maria Girardi and William B. Johnson, *Universal non-completely-continuous operators*, Israel J. Math. **99** (1997), 207–219. MR 98i:46010
12. S. J. Dilworth and Maria Girardi, *An application of a Pisier factorization theorem to the Pettis integral*, Séminaire d'Initiation à l'Analyse 1994-1995 (G. Choquet, G. Godefroy, M. Rogalski, and J. Saint Raymond, eds.), Publications Mathématiques de l'Université Pierre et Marie Curie, Paris, 1996, pp. 2001–2009.
13. _____, *Nowhere weak differentiability of the Pettis integral*, Quaestiones Math. **18** (1995), 365–380. MR 96i:28012
14. Maria Girardi and William B. Johnson, *The complete continuity property and finite-dimensional decompositions*, Canad. Math. Bull. **38** (1995), 207–214. MR 96e:46016
15. S. J. Dilworth, Maria Girardi, and Denka Kutzarova, *Banach spaces which admit a norm with the uniform Kadec-Klee property*, Studia Math. **112** (1995), 267–277. MR 96a:46023
16. Erik J. Balder, Maria Girardi, and Vincent Jalby, *From weak to strong types of $\mathcal{L}^1_E$-convergence by the Bocce criterion*, Studia Math. **111** (1994), 241–262. MR 95m:28005
17. Maria Girardi, *Bounding zeros of H^2 functions via concentrations*, J. Math. Anal. Appl. **183** (1994), 605–612. MR 95c:30046
18. S. J. Dilworth and Maria Girardi, *Bochner vs. Pettis norm: examples and results*, Banach Spaces (Mérida, 1992), Contemp. Math., vol. 144, Amer. Math. Soc., Providence, RI, 1993, pp. 69–80. MR 94d:46040
19. Maria Girardi and Zhibao Hu, *Errata: "Dentability, trees, and Dunford-Pettis operators on L_1" [Pacific J. Math.* **148** *(1991), no. 1, 59–79; MR 92e:46030] by Girardi*, Pacific J. Math. **157** (1993), 389–394. MR 93k:46010
20. Maria Girardi, *Dentability, trees, and Dunford-Pettis operators on L_1*, Pacific J. Math. **148** (1991), 59–79. MR 92e:46030
21. _____, *Weak vs. norm compactness in L_1: the Bocce criterion*, Studia Math. **98** (1991), 95–97. MR 92d:46075
22. Maria Girardi and J. J. Uhl Jr., *Slices, RNP, strong regularity, and martingales*, Bull. Austral. Math. Soc. **41** (1990), 411–415. MR 92a:46020
23. Maria Girardi, *Compactness in L_1, Dunford-Pettis operators, geometry of Banach spaces*, Proc. Amer. Math. Soc. **111** (1991), 767–777. MR 91f:46025

November 15, 2002 Maria Girardi

Jerrold R. Griggs

Graduate Education: Massachusetts Institute of Technology
Ph.D. 1977 in Applied Mathematics; Thesis Advisor: Daniel Kleitman

Undergraduate Education: Pomona College, Claremont, CA
B.A. 1973 summa cum laude in Mathematics; 1972 Putnam Exam Honorable Mention

Professional Employment

Regular Positions

1988–present	Professor	University of South Carolina, Columbia, SC
1983–1988	Associate Professor	University of South Carolina, Columbia, SC
1981–1983	Assistant Professor	University of South Carolina, Columbia, SC
1979–1981	Assistant Professor	University of Hawaii, Honolulu, HI

Visitng Positions

1992–present	Consultant	IDA Center for Communications, La Jolla, CA
Spring 1992	Sabbatical Visitor	Simon Fraser University, Burnaby, BC, Canada
Fall 1991	Research Staff Member	CCR, La Jolla, CA
Spring 1988	Invited Visitor	IMA, Minneapolis, MN
1984–1985	Visiting Associate Professor	University of Southern California, Los Angeles, CA

Postdoctoral Position

1977-1979	Bateman Research Instructor	California Institute of Technology, Pasadena, CA

Award

1999 Russell Research Award in Science and Engineering, University of South Carolina

Publications: 71 articles in print, in press, or submitted

Invited Conference Addresses and Seminar: 47 invited in 8 countries and US; 47 seminars or collquia at around 40 institutions in 4 countries.

Grant Support: NSF research grants 1980–1989, 1997-2003; NSF SCREMS grants 1982–1985, 1994–1996; NSF EPSCoR grant 1983—1986; NSA research grants 1990–1996 and conference grant 1999.

Doctoral Students: 11 completed and 1 in progress.

Masters Students: 10 completed and 3 in progress.

Editing, Refereeing, and Reviewing: Editorial Boards: SIAM J. Discrete Math.(1988–present), Editor-in-Chief (2003–2006); Amer. Math. Monthly (Probs. Contributing Editor) (1992–present); Integers, the Electronic J. of Combin. Number Theory (1999–present); Discrete Math., Special Issue in Honor of D. Kleitman (1999–2000); Naval Research Logistics, Special Issue on Networks (2001–); referee for 34 professional journals; Reviewer for Mathematical Reviews; Reviewer for 4 funding agencies.

Conference Organizing or Program Committees: Program Committee, ACM–SIAM Symposium on Discrete Algorithms (2003), Organizing Committee, SIAM Conference on Discrete Math (2002), AMS special sessions (2001, 1987), Co-organizer, Kleitman Celebration Conference, MIT (1999), Workshop Organizer, DIMACS Institute, Rutgers University (1994).

Service on Other Professional Panels: Advisor to Canada/USA MathCamps for Talented H.S. Students (1994–present), Board, Mathematics Foundation of America (1996–present), Judge, International Mathematical Competition in Modelling (1988–present), NSF Proposals in Combinatorics panel (1999), NSF CAREERS award panel (1997), MAA Visiting Lecturers Committee (1992–96), NSF Graduate Fellowships Panel (1990–92), SIAM Committee for Student Affairs (1988–91), NSF Science and Technology Centers Site Review (1988).

November 15, 2002 Jerrold R. Griggs

The Publications of Jerrold Griggs

1. Jerrold R. Griggs, Charles E. Killian, and Carla D. Savage, *Venn diagrams and symmetric chain decompositions in the Boolean lattice* (Submitted).
2. Richard P. Anstee, Ron Ferguson, and Jerrold R. Griggs, *Permutations with low discrepancy consecutive k-sums*, J. Combinatorial Theory (ser. A) (In Press).
3. Jerrold R. Griggs, *Intersecting families with minimum volume*, Discrete Math. **257** (2002), 411–414.
4. _____, *Judge's commentary: The outstanding channel assignment papers*, UMAP Journal **21** (2000), 379–386.
5. _____, *Judge's commentary: The outstanding lawful capacity papers*, UMAP Journal **20** (1999), 331–333.
6. Jerrold R. Griggs and Chih-Chang Ho, *On the half-half case of the Zarankiewicz problem*, Discrete Math. **249** (2002), 95–104, Combinatorics, graph theory and computing (Louisville, KY, 1999). 1 898 663
7. J. R. Griggs, *Spanning subset sums for finite abelian groups*, Discrete Math. **229** (2001), 89–99, Combinatorics, graph theory, algorithms and applications. MR 2001m:20090
8. F. Chudak and J. Griggs, *A new extension of Lubell's inequality to the lattice of divisors*, Studia Sci. Math. Hungar. **35** (1999), 347–351. MR 2001c:05003
9. Jerrold R. Griggs and Günter Rote, *On the distribution of sums of vectors in general position*, Contemporary Trends in Discrete Mathematics (Štiřín Castle, 1997), DIMACS Ser. Discrete Math. Theoret. Comput. Sci., vol. 49, Amer. Math. Soc., Providence, RI, 1999, pp. 139–142. MR 2000k:11032
10. J. R. Griggs, *Database security and the distribution of subset sums in $\mathbf{R}^m$*, Graph Theory and Combinatorial Biology (Balatonlelle, 1996), Bolyai Soc. Math. Stud., vol. 7, János Bolyai Math. Soc., Budapest, 1999, pp. 223–252. MR 2000i:68041
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12. Jerrold R. Griggs, Miklós Simonovits, and George Rubin Thomas, *Extremal graphs with bounded densities of small subgraphs*, J. Graph Theory **29** (1998), 185–207. MR 99m:05076
13. Jerrold R. Griggs and Chih-Chang Ho, *The cycling of partitions and compositions under repeated shifts*, Adv. in Appl. Math. **21** (1998), 205–227. MR 99j:05013
14. Richard Anstee, Jerrold R. Griggs, and Attila Sali, *Small forbidden configurations*, Graphs Combin. **13** (1997), 97–118. MR 98i:05035
15. Jerrold R. Griggs and J. Ouyang, *$(0,1)$-matrices with no half-half submatrix of ones*, European J. Combin. **18** (1997), 751–761. MR 98h:05043
16. Jerrold R. Griggs, *Concentrating subset sums at k points*, Bull. Inst. Combin. Appl. **20** (1997), 65–74. MR 98a:05006
17. Jerrold R. Griggs and Yan-Chyuan Lin, *The maximum sum of degrees above a threshold in planar graphs*, Discrete Math. **169** (1997), 233–243. MR 97m:05137
18. Jerrold Griggs and Owen Murphy, *Edge density and independence ratio in triangle-free graphs with maximum degree three*, Discrete Math. **152** (1996), 157–170. MR 97e:05111
19. Jerrold R. Griggs and George Rubin Thomas, *Maximum size graphs with k-subgraphs of size at most $k-2$*, Graph Theory, Combinatorics, and Algorithms, Vol. 1, 2 (Kalamazoo, MI, 1992), Wiley-Intersci. Publ., Wiley, New York, 1995, pp. 1147–1154. MR 97d:05166
20. Richard P. Anstee and Jerrold R. Griggs, *An application of matching theory of edge-colourings*, Discrete Math. **156** (1996), 253–256. MR 97c:05058
21. Jerrold R. Griggs, *Matchings, cutsets, and chain partitions in graded posets*, Discrete Math. **144** (1995), 33–46, Combinatorics of ordered sets (Oberwolfach, 1991). MR 96i:06001
22. Jerrold R. Griggs and Yan-Chyuan Lin, *Planar graphs with few vertices of small degree*, Discrete Math. **143** (1995), 47–70. MR 96h:05055
23. Gerard J. Chang, F. K. Hwang, P. E. Wright, and J. R. Griggs, *A unique arithmetic labeling of hexagonal lattices*, J. Combin. Des. **3** (1995), 169–177. MR 96c:05020
24. Jerrold R. Griggs and Daphne Der-Fen Liu, *The channel assignment problem for mutually adjacent sites*, J. Combin. Theory Ser. A **68** (1994), 169–183. MR 95k:05065
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26. Jerrold R. Griggs and Daniel J. Kleitman, *Independence and the Havel-Hakimi residue*, Discrete Math. **127** (1994), 209–212, Graph theory and applications (Hakone, 1990). MR 95e:05116

27. Jerrold R. Griggs, *On the distribution of sums of residues*, Bull. Amer. Math. Soc. (N.S.) **28** (1993), 329–333. MR 93j:11067

28. Jerrold R. Griggs and Roger K. Yeh, *Labelling graphs with a condition at distance* 2, SIAM J. Discrete Math. **5** (1992), 586–595. MR 93h:05141

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49. Michael S. Waterman and Jerrold R. Griggs, *Interval graphs and maps of DNA*, Bull. Math. Biol. **48** (1986), 189–195. MR 87i:05171

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56. Jerrold R. Griggs, *An upper bound on the Ramsey numbers* $R(3, k)$, J. Combin. Theory Ser. A **35** (1983), 145–153. MR 84i:05082

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61. Jerrold R. Griggs, *The Littlewood-Offord problem: tightest packing and an* M*-part Sperner theorem*, European J. Combin. **1** (1980), 225–234. MR 82e:05003

62. _____, *Extremal values of the interval number of a graph. II*, Discrete Math. **28** (1979), 37–47. MR 81h:05083b

63. Jerrold R. Griggs and Douglas B. West, *Extremal values of the interval number of a graph*, SIAM J. Algebraic Discrete Methods **1** (1980), 1–7. MR 81h:05083a

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65. Jerrold R. Griggs, *On chains and Sperner* k*-families in ranked posets*, J. Combin. Theory Ser. A **28** (1980), 156–168. MR 81e:05006

66. J. R. Griggs, *Another three part Sperner theorem*, Studies in Appl. Math. **57** (1976/77), 181–184. MR 58 #21638

67. _____, *The uniqueness of odd pair designs*, Studies in Appl. Math. **58** (1978), 1–4. MR 56 #15470

68. Jerrold R. Griggs, *Sufficient conditions for a symmetric chain order*, SIAM J. Appl. Math. **32** (1977), 807–809. MR 56 #146

69. J. R. Griggs and D. J. Kleitman, *A three part Sperner theorem*, Discrete Math. **17** (1977), 281–289. MR 55 #12582

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71. _____, *The Sperner property in geometric and partition lattices*, The Dilworth Theorems, Contemp. Mathematicians, Birkhäuser Boston, Boston, MA, 1990, pp. 298–304. 1 111 503

Peter Harley

Graduate Education: University of Georgia
Ph.D. 1966 in Mathematics; Thesis Advisor: J. Cantrell
M.A. 1965 in Mathematics

Undergraduate Education: Wofford College,
A.B. 1962 in Mathematics

Professional Employment

Permanent Positions

1974–present	Associate Professor	University of South Carolina, Columbia, SC
1969–1974	Assistant Professor	University of South Carolina, Columbia, SC
1967–1969	Captain	United States Navy
1966-1967	Assistant Professor	University of Georgia, Athens, GA

Honors and Awards

1962–1965	NDEA Graduate Fellowship, University of Georgia
1962	Honorary Woodrow Wilson Graduate Fellow, University of Georgia

Publications: 12 in print.

Masters Students: 5 completed.

The Publications of Peter Harley

1. P. W. III Harley, *On countably paracompact spaces and closed maps*, Portugal. Math. **46** (1989), 115–119. MR 90j:54013
2. P. W. III Harley and G. J. Michaelides, *Means on adjunction spaces*, Colloq. Math. **52** (1987), 29–38. MR 88g:54021
3. P. W. Harley III and G. F. McNulty, *When is a point Borel?*, Pacific J. Math. **80** (1979), 151–157. MR 80e:54020
4. Peter W. Harley III and R. M. Stephenson Jr., *Symmetrizable and related spaces*, Trans. Amer. Math. Soc. **219** (1976), 89–111. MR 54 #6092
5. P. W. Harley III and G. D. Faulkner, *Metrization of symmetric spaces*, Canad. J. Math. **27** (1975), 986–990. MR 54 #1176
6. P. W. Harley III, *A countable nowhere first countable Hausdorff space*, Canad. Math. Bull. **16** (1973), 441–442. MR 50 #11200
7. Peter W. Harley III, *Metrization of closed images of metric spaces*, TOPO 72—General Topology and Its Applications (Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa., 1972; Dedicated to the Memory of Johannes H. de Groot), Springer, Berlin, 1974, pp. 188–191. Lecture Notes in Math., Vol. 378. MR 50 #11175
8. ———, *Metric and symmetric spaces*, Proc. Amer. Math. Soc. **43** (1974), 428–430. MR 49 #1486
9. P. W. Harley III, *A characterization of spaces on which all path maps are continuous*, Proc. Amer. Math. Soc. **34** (1972), 621–622. MR 46 #8161
10. Peter W. Harley, *A note on counting matrices*, SIAM (1971).
11. ———, *On suspending homotopy spheres*, Proc. Amer. Math. Soc. **19** (1968), 1123–1124. MR 38 #2787
12. ———, *The product of an n-cell modulo an arc in its boundary and a 1-cell is an $(n+1)$-cell*, Duke Math. J. **35** (1968), 463–474. MR 37 #4795

November 15, 2002 Peter Harley

Ralph Elwood Howard

Graduate Education:
California Institute of Technology
Ph.D. 1982 in Mathematics; Thesis Advisor: Jack Conn
California State University, Northridge, CA
M.S. in Mathematics 1974

Undergraduate Education: California State University, Northridge, CA
B.A. 1973 in Mathematics

Professional Employment

Permanent Positions

1999–present	Professor	University of South Carolina, Columbia, SC
1988–1999	Associate Professor	University of South Carolina, Columbia, SC
1984–1988	Assistant Professor	University of South Carolina, Columbia, SC

Visiting Positions

Fall 1987	Visiting Assistant Professor	Duke University, Durham, NC
1993–1994	Visiting Associate Professor	Royal Institute of Technology, Stockholm, Sweden

Postdoctoral Position

1982–1984	Research Associate	Michigan State University, East Lansing, MI

Publications: 33 (1 Memoir and 31 articles in print or in press, 1 submitted).

Invited Addresses and Seminars: 22 addresses at conferences and 30 seminar talks at 22 institutions in 4 countries.

Grant Support: NSF research grant (1988–90), summer support on grants of other PI's (1986, 1992, 1994–2000).

Doctoral Students: 1 completed.

Masters Students: 5 completed.

Refereeing, and Reviewing: Referee for 12 mathematical journals and reviewer for 2 funding agencies.

Conference Organizing or Program Committees: Chair of 1 regional conference and co-organizer of 1 special session for the American Mathematical Society.

The Publications of Ralph Howard

Memior

1. Ralph Howard, *The kinematic formula in Riemannian homogeneous spaces*, Mem. Amer. Math. Soc. **106** (1993), vi+69. MR 94d:53114

Articles

2. S. J. Dilworth, Ralph Howard, and James W. Roberts, *A General Theory of Almost Convex Functions* (Submitted).
3. _____, *Extremal Approximately Convex Functions and the Best Constants in a Theorem of Hyers and Ulam*, Advances in Mathematics (To appear).
4. Aaron Abrams, Jason Cantarella, Joseph H. Fu, Mohammad Ghomi, and Ralph Howard, *Circles minimize most knot energies*, Topology (2002), Available at: `http://www.mathematicsweb.org/mathematicsweb/show/Index.htt?Issn=00409383`.
5. Piotr T. Chruściel, Joseph H. G. Fu, Gregory J. Galloway, and Ralph Howard, *On fine differentiability properties of horizons and applications to Riemannian geometry*, J. Geom. Phys. **41** (2002), 1–12. MR 2002k:53136
6. Ralph Howard, Gyula Károlyi, and László Székely, *Towards a Katona type proof for the 2-intersecting Erdős-Ko-Rado theorem*, Electron. J. Combin. **8** (2001), Research Paper 31, 8 pp. (electronic). MR 2002i:05112
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8. P. T. Chruściel, E. Delay, G. J. Galloway, and R. Howard, *Regularity of horizons and the area theorem*, Ann. Henri Poincaré **2** (2001), 109–178. MR 2002e:83045
9. S. J. Dilworth, Ralph Howard, and James W. Roberts, *On the size of approximately convex sets in normed spaces*, Studia Math. **140** (2000), 213–241. MR 2001h:46010
10. _____, *Extremal approximately convex functions and estimating the size of convex hulls*, Adv. Math. **148** (1999), 1–43. MR 2001c:26015
11. Ralph Howard, *Blaschke's rolling theorem for manifolds with boundary*, Manuscripta Math. **99** (1999), 471–483. MR 2000i:53047
12. Lars Andersson and Ralph Howard, *Comparison and rigidity theorems in semi-Riemannian geometry*, Comm. Anal. Geom. **6** (1998), 819–877. MR 2000f:53055
13. Lars Andersson, Gregory J. Galloway, and Ralph Howard, *A strong maximum principle for weak solutions of quasi-linear elliptic equations with applications to Lorentzian and Riemannian geometry*, Comm. Pure Appl. Math. **51** (1998), 581–624. MR 99d:35045
14. _____, *The cosmological time function*, Classical Quantum Gravity **15** (1998), 309–322. MR 99b:53087
15. Ralph Howard, *The sharp Sobolev inequality and the Banchoff-Pohl inequality on surfaces*, Proc. Amer. Math. Soc. **126** (1998), 2779–2787. MR 98k:53096
16. Paul Goodey, Ralph Howard, and Mark Reeder, *Processes of flats induced by higher-dimensional processes. III*, Geom. Dedicata **61** (1996), 257–269. MR 97j:60021
17. Lars Andersson, Mattias Dahl, and Ralph Howard, *Boundary and lens rigidity of Lorentzian surfaces*, Trans. Amer. Math. Soc. **348** (1996), 2307–2329. MR 97a:53105
18. Ralph Howard and Andrejs Treibergs, *A reverse isoperimetric inequality, stability and extremal theorems for plane curves with bounded curvature*, Rocky Mountain J. Math. **25** (1995), 635–684. MR 96j:58035
19. Ralph Howard and Margaret Reese, *Characterization of eigenfunctions by boundedness conditions*, Canad. Math. Bull. **35** (1992), 204–213. MR 93e:35077
20. Paul R. Goodey and Ralph Howard, *Processes of flats induced by higher-dimensional processes. II*, Integral Geometry and Tomography (Arcata, CA, 1989), Contemp. Math., vol. 113, Amer. Math. Soc., Providence, RI, 1990, pp. 111–119. MR 92f:60017
21. Paul Goodey and Ralph Howard, *Processes of flats induced by higher-dimensional processes*, Adv. Math. **80** (1990), 92–109. MR 91d:60025

November 15, 2002 Ralph Elwood Howard

22. Ralph Howard and Anton R. Schep, *Norms of positive operators on L^p-spaces*, Proc. Amer. Math. Soc. **109** (1990), 135–146. MR 90j:47031

23. Ronald A. DeVore, Ralph Howard, and Charles Micchelli, *Optimal nonlinear approximation*, Manuscripta Math. **63** (1989), 469–478. MR 90c:41053

24. Ralph Howard, *A note on Roe's characterization of the sine function*, Proc. Amer. Math. Soc. **105** (1989), 658–663. MR 89g:33001

25. J. C. Bezdek, R. J. Hathaway, R. E. Howard, C. A. Wilson, and M. P. Windham, *Local convergence analysis of a grouped variable version of coordinate descent*, J. Optim. Theory Appl. **54** (1987), 471–477. MR 89f:90163

26. Ralph Howard, *On the Gehring link problem and the isoperimetric inequality of Bombieri and Simon*, J. Analyse Math. **47** (1986), 243–253. MR 88g:53063

27. _____, *Classical integral geometry in Riemannian homogeneous spaces*, Integral Geometry (Brunswick, Maine, 1984), Contemp. Math., vol. 63, Amer. Math. Soc., Providence, RI, 1987, pp. 179–204. MR 88a:53070

28. _____, *The nonexistence of stable submanifolds, varifolds, and harmonic maps in sufficiently pinched simply connected Riemannian manifolds*, Michigan Math. J. **32** (1985), 321–334. MR 87h:58040

29. Ralph Howard and S. Walter Wei, *Nonexistence of stable harmonic maps to and from certain homogeneous spaces and submanifolds of Euclidean space*, Trans. Amer. Math. Soc. **294** (1986), 319–331. MR 87c:58033

30. _____, *Inequalities relating sectional curvatures of a submanifold to the size of its second fundamental form and applications to pinching theorems for submanifolds*, Proc. Amer. Math. Soc. **94** (1985), 699–702. MR 86m:53056

31. Ralph Howard, *Linear maps that preserve matrices annihilated by a polynomial*, Linear Algebra Appl. **30** (1980), 167–176. MR 81h:15002

32. _____, *Dimension inequalities on the range of a multilinear function with vector space range*, Linear and Multilinear Algebra **8** (1979/80), 247–252. MR 81a:15020

33. Ralph Howard and Paul Sisson, *Capturing the origin with random points: generalizations of a Putnam problem*, College Math. J. **27** (1996), 186–192. 1 390 366

34. James C. Bezdek, Richard J. Hathaway, Ralph E. Howard, and Celia A. Wilson, *Coordinate descent and clustering*, Control Cybernet. **15** (1986), 195–204. 880 429 (English, with Russian and Polish summaries)

Richard H. Hudson

Graduate Education: Duke University
Ph.D. 1971 in Mathematics; Thesis Advisor: Leonard Carlitz
M.A. 1970 in Mathematics.

Undergraduate Education: University of North Carolina at Chapel Hill
B.S. June 1967 in Mathematics; cum laude and Phi Beta Kappa

Professional Employment

Permanent Positions

1974–present	Associate Professor	University of South Carolina, Columbia, SC
1972–1974	Assistant Professor	University of South Carolina, Columbia, SC

Visiting Positions

Fall 1988	Visitng Professor	Carleton University, Ottawa, Canada
1981–1982	Visitng Professor	Carleton University, Ottawa, Canada
1979–1980	Visitng Professor	Carleton University, Ottawa, Canada

Postdoctoral Position

1971–72	Research Instructor	Duke University, Durham, NC

Awards and Honors

1967 NDEA Graduate Fellowship, Duke University, Durham, NC

Publications: 64 in print or in press.

Invited Addresses And External Colloquia/Seminars: 23 at 18 different institutions in 4 countries.

Masters Students: 5 completed.

Grant Support: NSERC research grants 1979–1981 in Ottawa, Canada. A seed grant from the Holmes Group for 1994.

Refereeing, and Reviewing: Referee for 6 professional journals. Reviewer of grant proposals for 3 funding agencies.

The Publications of Richard Hudson

1. Richard H. Hudson and Jonathan Mason, Fibonacci Quarterly (To Appear).
2. Kevin Ford and Richard H. Hudson, *Sign changes in* $\pi_{q,a}(x) - \pi_{q,b}(x)$, Acta Arith. **100** (2001), 297–314. 1 862 054
3. Carter Bays, Kevin Ford, Richard H. Hudson, and Michael Rubinstein, *Zeros of Dirichlet* L*-functions near the real axis and Chebyshev's bias*, J. Number Theory **87** (2001), 54–76. MR 2001m:11148
4. Carter Bays and Richard H. Hudson, *A new bound for the smallest* x *with* $\pi(x) < \mathrm{li}(x)$, Math. Comp. **69** (2000), 1285–1296 (electronic). MR 2001c:11138
5. Richard H. Hudson, Charles J. Judge, and Turker Teker, *Class number formulae for imaginary quadratic number fields* $\mathbf{Q}(\sqrt{-n})$ *with* n *squarefree and* $n \equiv 1 \pmod 4$ *or* $n \equiv 2 \pmod 4$, Enseign. Math. (2) **45** (1999), 349–355. MR 2000m:11109
6. Carter Bays and Richard H. Hudson, *Zeroes of Dirichlet* L*-functions and irregularities in the distribution of primes*, Math. Comp. **69** (2000), 861–866. MR 2000i:11139
7. Kenneth S. Williams and Richard H. Hudson, *Representation of primes by the principal form of discriminant* $-D$ *when the classnumber* $h(-D)$ *is* 3, Acta Arith. **57** (1991), 131–153. MR 92d:11118
8. R. H. Hudson and K. S. Williams, *The integers of a cyclic quartic field*, Rocky Mountain J. Math. **20** (1990), 145–150. MR 91i:11143
9. Kenneth Hardy, Richard H. Hudson, David Richman, and Kenneth S. Williams, *Determination of all imaginary cyclic quartic fields with class number* 2, Trans. Amer. Math. Soc. **311** (1989), 1–55. MR 89f:11148
10. Kenneth Hardy, R. H. Hudson, D. Richman, Kenneth S. Williams, and N. M. Holtz, *Calculation of the class numbers of imaginary cyclic quartic fields*, Math. Comp. **49** (1987), 615–620. MR 88m:11112
11. Richard H. Hudson, *Convergence of tribonacci decimal expansions*, Fibonacci Quart. **25** (1987), 163–170. MR 88d:11015
12. Duncan A. Buell and Richard H. Hudson, *Sequences in power residue classes*, Internat. J. Math. Math. Sci. **9** (1986), 261–266. MR 88a:11006
13. Richard H. Hudson, *Products and sums of powers of binomial coefficients mod* p *and solutions of certain quaternary Diophantine systems*, Math. Comp. **43** (1984), 603–613. MR 87e:11035
14. Duncan A. Buell and Richard H. Hudson, *Solutions of certain quaternary quadratic systems*, Pacific J. Math. **114** (1984), 23–45. MR 87e:11033
15. _____, *On runs of consecutive quadratic residues and quadratic nonresidues*, BIT **24** (1984), 243–247. MR 86j:11133
16. Duncan A. Buell, Richard H. Hudson, and Kenneth S. Williams, *Extension of a theorem of Cauchy and Jacobi*, J. Number Theory **19** (1984), 309–340. MR 86i:11002
17. Richard H. Hudson, *Averaging effects on irregularities in the distribution of primes in arithmetic progressions*, Math. Comp. **44** (1985), 561–571. MR 86h:11074
18. Richard H. Hudson and Kenneth S. Williams, *Binomial coefficients and Jacobi sums*, Trans. Amer. Math. Soc. **281** (1984), 431–505. MR 85m:11092
19. Richard H. Hudson and Thomas L. Markham, *Alfred T. Brauer as a mathematician and teacher*, Linear Algebra Appl. **59** (1984), 1–17. MR 85m:01065
20. Richard H. Hudson, *Class numbers of imaginary cyclic quartic fields and related quaternary systems*, Pacific J. Math. **115** (1984), 129–142. MR 85k:11012
21. _____, *On the first occurrence of certain patterns of quadratic residues and nonresidues*, Israel J. Math. **44** (1983), 23–32. MR 85g:11087
22. _____, *Diophantine determinations of* $3^{(p-1)/8}$ *and* $5^{(p-1)/4}$, Pacific J. Math. **111** (1984), 49–55. MR 85c:11005
23. _____, *A note on prime* k*th power nonresidues*, Manuscripta Math. **42** (1983), 285–288. MR 84g:10007
24. Richard H. Hudson and Kenneth S. Williams, *On Legendre's equation* $ax^2 + by^2 + cz^2 = 0$, J. Number Theory **16** (1983), 100–105. MR 84e:10022
25. _____, *Extensions of theorems of Cunningham-Aigner and Hasse-Evans*, Pacific J. Math. **104** (1983), 111–132. MR 84e:10005
26. Carter Bays and Richard H. Hudson, *The cyclic behavior of primes in the arithmetic progressions modulo* 11, J. Reine Angew. Math. **339** (1983), 215–220. MR 84d:10048

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27. Richard H. Hudson and Kenneth S. Williams, *Class number formulae of Dirichlet type*, Math. Comp. **39** (1982), 725–732. MR 84b:12013

28. Richard H. Hudson, *A theorem on totally multiplicative functions*, Manuscripta Math. **36** (1981/82), 323–346. MR 84b:10068

29. Richard H. Hudson and Kenneth S. Williams, *Congruences for representations of primes by binary quadratic forms*, Acta Arith. **41** (1982), 311–322. MR 84b:10019

30. R. H. Hudson and K. S. Williams, *An application of a formula of Western to the evaluation of certain Jacobsthal sums*, Acta Arith. **41** (1982), 261–276. MR 84a:10041

31. Richard H. Hudson and Kenneth S. Williams, *A new formulation of the law of octic reciprocity for primes* $\equiv \pm 3 \pmod 8$ *and its consequences*, Internat. J. Math. Math. Sci. **5** (1982), 565–584. MR 83m:10005

32. _____, *A divisibility property of binomial coefficients viewed as an elementary sieve*, Internat. J. Math. Math. Sci. **4** (1981), 731–743. MR 83i:05009

33. _____, *Resolution of ambiguities in the evaluation of cubic and quartic Jacobsthal sums*, Pacific J. Math. **99** (1982), 379–386. MR 83h:10076

34. _____, *Cauchy-type congruences for binomial coefficients*, Proc. Amer. Math. Soc. **85** (1982), 169–174. MR 83h:10024

35. Richard H. Hudson, *On a conjecture of Emma Lehmer*, Manuscripta Math. **35** (1981), 353–370. MR 83e:10007

36. Richard H. Hudson and C. F. Winans, *A complete characterization of the decimal fractions that can be represented as* $\sum 10^{-k(i+1)} F_{\alpha i}$*, where* $F_{\alpha i}$ *is the* αi*th Fibonacci number*, Fibonacci Quart. **19** (1981), 414–421. MR 83d:10013

37. Richard H. Hudson, *A common combinatorial principle underlies Riemann's formula, the Chebyshev phenomenon, and other subtle effects in comparative prime number theory. I*, J. Reine Angew. Math. **313** (1980), 133–150. MR 83b:10053 (French, with English summary)

38. Richard H. Hudson and Kenneth S. Williams, *Some new residuacity criteria*, Pacific J. Math. **91** (1980), 135–143. MR 82f:10004

39. _____, *A new criterion for* 7 *to be a fourth power (mod* p*)*, Israel J. Math. **38** (1981), 221–230. MR 82e:10007

40. _____, *On the least quadratic nonresidue of a prime* $p \equiv 3 \pmod 4$, J. Reine Angew. Math. **318** (1980), 106–109. MR 81g:10007

41. Carter Bays and Richard H. Hudson, *Numerical and graphical description of all axis crossing regions for the moduli* 4 *and* 8 *which occur before* 10^{12}, Internat. J. Math. Math. Sci. **2** (1979), 111–119. MR 80h:10003

42. Richard H. Hudson, *On a conjecture of Issai Schur*, J. Reine Angew. Math. **289** (1977), 215–220. MR 58 #16481

43. Carter Bays and Richard H. Hudson, *Details of the first region of integers* x *with* $\pi_{3,2}(x) < \pi_{3,1}(x)$, Math. Comp. **32** (1978), 571–576. MR 57 #16175

44. _____, *On the fluctuations of Littlewood for primes of the form* $4n \neq 1$, Math. Comp. **32** (1978), 281–286. MR 57 #16174

45. _____, *The appearance of tens of billions of integers* x *with* $\pi_{24,13}(x) < \pi_{24,1}(x)$ *in the vicinity of* 10^{12}, J. Reine Angew. Math. **299/300** (1978), 234–237. MR 57 #12418

46. Richard H. Hudson and Carter Bays, *The mean behavior of primes in arithmetic progressions*, J. Reine Angew. Math. **296** (1977), 80–99. MR 57 #255

47. Carter Bays and Richard H. Hudson, *The segmented sieve of Eratosthenes and primes in arithmetic progressions to* 10^{12}, Nordisk Tidskr. Informationsbehandling (BIT) **17** (1977), 121–127. MR 56 #5405

48. Richard H. Hudson and Alfred Brauer, *On the exact number of primes in the arithmetic progressions* $4n \pm 1$ *and* $6n \pm 1$, J. Reine Angew. Math. **291** (1977), 23–29. MR 56 #283

49. Richard H. Hudson, *A formula for the exact number of primes below a given bound in any arithmetic progression*, Bull. Austral. Math. Soc. **16** (1977), 67–73. MR 55 #12663

50. _____, *A sharper bound for the least pair of consecutive* k*-th power non-residues of non-principal characters* $\pmod p$ *of order* $k > 3$, Acta Arith. **30** (1976), 133–135. MR 54 #10172

51. _____, *Generalizations of a classical theorem in number theory*, Math. Comp. **30** (1976), 649–656. MR 53 #7916

52. _____, *The least pair of consecutive character non-residues*, J. Reine Angew. Math. **281** (1976), 219–220. MR 52 #10635

53. _____, *A bound for the first $k-1$ consecutive k-th power non-residues* $(\mathrm{mod}\, p)$, Acta Arith. **28** (1975/76), 341–343. MR 52 #10634

54. _____, *Power residues and nonresidues in arithmetic progressions*, Trans. Amer. Math. Soc. **194** (1974), 277–289. MR 51 #10202

55. _____, *A note on the second smallest prime kth power nonresidue*, Proc. Amer. Math. Soc. **46** (1974), 343–346. MR 51 #394

56. _____, *On the least kth power non-residue*, Ark. Mat. **12** (1974), 217–220. MR 50 #12885

57. _____, *Totally multiplicative sequences with values ± 1 which exclude four consecutive values of* 1, J. Reine Angew. Math. **271** (1974), 218–220. MR 50 #9764

58. _____, *A note on Dirichlet characters*, Math. Comp. **27** (1973), 973–975. MR 49 #2619

59. _____, *Prime k-th power non-residues*, Acta Arith. **23** (1973), 89–106. MR 48 #214

60. _____, *On the distribution of k-th power non residues in the interval* $[1,\, p^a]$, $2/5 < a \leq 4/9$, J. Reine Angew. Math. **260** (1973), 178–180. MR 47 #4909

61. _____, *A bound for the first occurrence of three consecutive integers with equal quadratic character*, Duke Math. J. **40** (1973), 33–39. MR 47 #3295

62. _____, *Multiplikativ signierte Folgen positiver Ganzer Zahlen*, Gesammelte Abhandlungen von Issai Schur, vol. 3, Springer Verlag, Berlin, 1973, pp. 392–399.

63. _____, *On the distribution of k-th power nonresidues*, Duke Math. J. **39** (1972), 85–88. MR 45 #158

64. _____, *On squences of consecutive quadratic nonresidues*, J. Number Theory **3** (1971), 178–181. MR 43 #150

George W. Johnson

Graduate Education: University of Tennessee
Ph.D. 1971 in Mathematics; Thesis Advisor: John Bradley

Undergraduate Education: Furman University
B.A. June 1967 in Mathematics.

Professional Employment

Permanent Positions

1995–2002	Assistant Chair	University of South Carolina, Columbia, SC
1992–1994	Visiting Associate Professor	Rice University, Houston, TX
1988–1991	Director of Parallel Computing Initiative	University of South Carolina, Columbia, SC
1983–1990	Director, Mathematics and Statistics Computation Center	University of South Carolina, Columbia, SC
1977–1980	Graduate Director	University of South Carolina, Columbia, SC
1976–present	Associate Professor	University of South Carolina, Columbia, SC
1972–1976	Assistant Professor	University of South Carolina, Columbia, SC

Publications: 11 (10 in print, one in preparation)

Doctoral Students: 2 completed

Masters Students: 23 completed.

Grant Support: Digital Equipment Corporation Research Equipment Grant, Motorola Corporation Research Equipment Grant, NSF SCREMS Grant

Conference Organizing or Program Committees: 2 national conferences and two regional conferences

Editing, Refereeing and Reviewing: Reviewer for Mathematical Reviews, two professional journals

Professional Organizations: AMS, SIAM, MAA, NCTM, SCCTM, National Leadership Associate for the National Network for Educational Renewal, Member of the Board of Directors and Treasurer of the South Carolina Network for Educational Renewal.

The Publications of George Johnson

1. George W. Johnson, *Numerical Optimization at the Center for Research on Parallel Computation*, The International Journal of Supercomputer Applications and High Performance Computing **8** (1994), 143–153.
2. George W. Johnson and Ju Rang Yan, *Oscillatory properties of n–th Order Functional Differential Equations*, Chinese Annals of Math **6** (1985), 47–52.
3. _____, *Oscillation criteria for second order nonlinear differential equations with an "integrally small" coefficient*, J. Math. Anal. Appl. **105** (1985), 419–432. MR 86i:34051
4. _____, *An improved Wintner oscillation criterion for second order linear differential equations*, Canad. Math. Bull. **27** (1984), 117–121. MR 85a:34045
5. George W. Johnson and Nieves H. Austria, *A quasi-Newton method employing direct secant updates of matrix factorizations*, SIAM J. Numer. Anal. **20** (1983), 315–325. MR 84g:65069
6. George W. Johnson, *The Zeros of Solutions of a Linear Quasi-Differential Equation differential equation*, Journal D'Analyse Mathematique (1976), 255–261.
7. _____, *The Zeros of Solutions of an Even Order Quasi-Differential Equation differential equation*, Journal D'Analyse Mathematique (1975), 123–137.
8. _____, *Conjugate point properties for an even order linear differential equation*, Proc. Amer. Math. Soc. **45** (1974), 371–376. MR 50 #684
9. _____, *The kth conjugate point function for an even order linear differential equation*, Proc. Amer. Math. Soc. **42** (1974), 563–568. MR 48 #11665
10. _____, *A bounded nonoscillatory solution of an even order linear differential equation*, J. Differential Equations **15** (1974), 172–177. MR 48 #6543

November 15, 2002 George W. Johnson

Marek Kossowski

Graduate Education: University of North Carolina at Chapel Hill
Ph.D. in Mathematics 1982; Thesis Advisor: Michael Schlessinger.

Undergraduate Education: Stetson University
B.S. 1976 in Mathematics.

Profession Employment

PermanentPositions

1991–present	Associate Professor	University of South Carolina, Columbia, SC
1986–1991	Assistant Professor	University of South Carolina, Columbia, SC

Visiting Positions

1989	Visiting Assistant Professor	University of Waterloo, Waterloo, Canada
1987	Visiting Associate Professor	University of North Carolina, Chapel Hill, NC

Postdoctoral Positions

1983–1986	G.C.Evans Instructor	Rice University, Houston, TX
1982	Visiting Faculty	University of North Carolina, Chapel Hill, NC

Publications: 49 (37 in print; 12 submitted or in preparation).

External Addresses: 34 in 4 countries.

Doctoral Students: 1 completed.

Grant Support: NSF grant with R.Howard 1988-1990; Resident participant NSF special year in Differential Geometry 1987,University of North Carolina; NSF-support,1983-1986 at Rice University.

Refereeing and Reviewing: Referee for 8 mathematical journals, reviewer for Mathematical Reviews, reviewer of NSF grant proposals.

The Publications of Marek Kossowski

1. Marek Kossowski, *The Boy-Gauss-Bonnet theorems for C^∞-singular surfaces with limiting tangent bundle*, Ann. Global Anal. Geom. **21** (2002), 19–29. 1 889 247
2. _____, *A generalization of Boy's theorem for surfaces in Euclidean 3-space*, C. R. Math. Acad. Sci. Soc. R. Can. **23** (2001), 65–70. MR 2002f:53006 (English, with English and French summaries)
3. Yu Chen and Marek Kossowski, *Global differential geometry of 1-resolvable C^∞ curves in the plane*, Ann. Global Anal. Geom. **16** (1998), 173–188. MR 99k:53001
4. Marcus Kriele and Marek Kossowski, *Pseudo-Riemannian metrics with signature type change*, Geometry and Topology of Submanifolds, VII (Leuven, 1994/Brussels, 1994), World Sci. Publishing, River Edge, NJ, 1995, pp. 155–158. MR 98a:53102
5. Marek Kossowski and Marcus Kriele, *The volume blow-up and characteristic classes for transverse, type-changing, pseudo-Riemannian metrics*, Geom. Dedicata **64** (1997), 1–16. MR 98a:53101
6. Marek Kossowski, *Fiber completions, contact singularities and single valued solutions for C^∞-second order ODE*, Canad. J. Math. **48** (1996), 849–870. MR 97h:58008
7. Tevian Dray and Charles Hellaby, *Comment on: "Smooth and discontinuous signature type change in general relativity" [Classical Quantum Gravity* **10** *(1993), no. 11, 2363–2371; MR 94h:53092] by M. Kossowski and M. Kriele*, Gen. Relativity Gravitation **28** (1996), 1401–1413, With a reply by Kriele. MR 97g:53080
8. Marek Kossowski, Marcus Kriele, and Willem M. Sluis, *Fibre completion, contact singularities and single-valued solutions to C^∞-systems of first-order ordinary differential equations*, Nonlinearity **9** (1996), 209–224. MR 97c:53022
9. Marek Kossowski, *Prescribing invariants for integral surfaces in the Grassmann bundle of 2-planes in 4-space*, Topology **35** (1996), 1–12. MR 96m:57036
10. _____, *Homotopy invariants for solutions to symplectic Monge-Ampère equations*, J. Differential Equations **106** (1993), 294–311. MR 96b:58020
11. Marek Kossowski and Marcus Kriele, *Transverse, type changing, pseudo-Riemannian metrics and the extendability of geodesics*, Proc. Roy. Soc. London Ser. A **444** (1994), 297–306. MR 95h:53092
12. _____, *The Einstein equation for signature type changing spacetimes*, Proc. Roy. Soc. London Ser. A **446** (1994), 115–126. MR 95g:83010
13. Marek Kossowski, *The Lagrangian Gauss image of a compact surface in Minkowski 3-space*, Ann. Global Anal. Geom. **11** (1993), 237–251. MR 95d:53072
14. _____, *Fully stratified compact hypersurfaces in Minkowski 4-space*, Geom. Dedicata **47** (1993), 297–316. MR 95b:53079
15. Marek Kossowski and Marcus Kriele, *Smooth and discontinuous signature type change in general relativity*, Classical Quantum Gravity **10** (1993), 2363–2371. MR 94h:53092
16. _____, *Signature type change and absolute time in general relativity*, Classical Quantum Gravity **10** (1993), 1157–1164. MR 94c:83013
17. Marek Kossowski, *Local existence and stability of multivalued solutions to determined analytic first-order systems on the plane*, Duke Math. J. **69** (1993), 635–661. MR 93m:35008
18. _____, *Prescribing invariants of Lagrangian surfaces*, Topology **31** (1992), 337–347. MR 93e:58064
19. _____, *The total split curvatures of knotted space-like 2-spheres in Minkowski 4-space*, Proc. Amer. Math. Soc. **117** (1993), 813–818. MR 93d:53085
20. _____, *The Lagrangian Gauss image of a surface in Euclidean 3-space*, Trans. Amer. Math. Soc. **335** (1993), 791–803. MR 93d:53077
21. Marek Kossowski and Gerard Thompson, *Submersive second order ordinary differential equations*, Math. Proc. Cambridge Philos. Soc. **110** (1991), 207–224. MR 92k:58013
22. Marek Kossowski, *The asymptotic blow-up of a surface in Euclidean 3-space*, Geom. Dedicata **40** (1991), 251–261. MR 92k:53008
23. _____, *Restrictions on zero mean curvature surfaces in Minkowski space*, Quart. J. Math. Oxford Ser. (2) **42** (1991), 315–324. MR 92i:53064
24. _____, *Local existence of multivalued solutions to analytic symplectic Monge-Ampère equations (the nondegenerate and type changing cases)*, Indiana Univ. Math. J. **40** (1991), 123–148. MR 92h:58202

November 15, 2002 Marek Kossowski

25. ———, *The null blow-up of a surface in Minkowski 3-space and intersection in the spacelike Grassman [Grassmannian]*, Michigan Math. J. **38** (1991), 401–415. MR 92h:53080

26. ———, *PDE admitting Lagrangian solutions with nontrivial homotopy invariants (π-degree, polarization index, Maslov period)*, J. Differential Equations **91** (1991), 336–354. MR 92f:58202

27. ———, *A Gauss map and hybrid degree formula for compact hypersurfaces in Minkowski space*, Geom. Dedicata **32** (1989), 13–23. MR 91e:53067

28. ———, *Lower bounds for the extrinsic total curvatures of a space-like codimension 2 surface in Minkowski space*, Proc. Amer. Math. Soc. **109** (1990), 787–795. MR 90k:53103

29. ———, *The S^2-valued Gauss maps and split total curvature of a space-like codimension-2 surface in Minkowski space*, J. London Math. Soc. (2) **40** (1989), 179–192. MR 90j:53081

30. ———, *The intrinsic conformal structure and Gauss map of a light-like hypersurface in Minkowski space*, Trans. Amer. Math. Soc. **316** (1989), 369–383. MR 90b:53076

31. ———, *Metric singularity phenomena in pseudo-Riemannian geometry*, Mathematics and General Relativity (Santa Cruz, CA, 1986), Contemp. Math., vol. 71, Amer. Math. Soc., Providence, RI, 1988, pp. 277–284. MR 89f:53048

32. ———, *Special points on first order partial differential equations and the deformations of solutions*, Trans. Amer. Math. Soc. **302** (1987), 171–184. MR 89a:35014

33. ———, *Pseudo-Riemannian metric singularities and the extendability of parallel transport*, Proc. Amer. Math. Soc. **99** (1987), 147–154. MR 88i:53104

34. ———, *First order partial differential equations with singular solution*, Indiana Univ. Math. J. **35** (1986), 209–223. MR 87i:58177

35. ———, *Fold singularities in pseudo-Riemannian geodesic tubes*, Proc. Amer. Math. Soc. **95** (1985), 463–469. MR 87f:58023

36. Marek Kossowski and Marcus Kriele, *Signature type change and absolute time in general relativity*, Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993), World Sci. Publishing, River Edge, NJ, 1994, pp. 421–427. 1 471 537

Andrew R. Kustin

Graduate Education: University of Illinois at Urbana-Champaigne
Ph.D. June 1979 in Mathematics; Thesis Advisor: Phillip Griffith

Undergraduate Education: Pennsylvania State University
B.S. August 1973 in Mathematics

Professional Employment

1991–present	Professor	University of South Carolina, Columbia, SC
1984–1991	Associate Professor	University of South Carolina. Columbia, SC
1982–1984	Assistant Professor	University of South Carolina, Columbia, SC

Visiting Position

1988–1989	Visiting Associate Professor	Michigan State University, East Lansing, MI

Postdoctoral Position

1979–1982	Instructor	University of Kansas, Lawrence, KS

Publications: 33 articles in print.

Invited Addresses and Seminars: 33 at 29 venues in 5 countries.

Grant Support: NSF research grants (1980–83, 1986–89, 1991-97), NSF EPSCoR support (1984), NSF SCREMS grant 1994–96.

Doctoral Students: 1 completed.

Masters Students: 2 completed.

Refereeing and Reviewing: Referee for 7 professional journals; research proposal reviewer for two funding agencies; reveiwer for Mathematical Reviews and for Zentralblatt.

Conference Organizing or Program Committees: 2 special sessions for the American Mathematical Society.

The Publications of Andrew Kustin

Memoirs

1. Andrew R. Kustin, *Complexes associated to two vectors and a rectangular matrix*, Mem. Amer. Math. Soc. **147** (2000), viii+81. MR 2001a:13018
2. Andrew R. Kustin and Bernd Ulrich, *A family of complexes associated to an almost alternating map, with applications to residual intersections*, Mem. Amer. Math. Soc. **95** (1992), iv+94. MR 92i:13012

Articles

3. Andrew R. Kustin, *The minimal free resolution of the Migliore-Peterson rings in the case that the reflexive sheaf has even rank*, J. Algebra **207** (1998), 572–615. MR 2000a:13024
4. _____, *The deviation two Gorenstein rings of Huneke and Ulrich*, Commutative Algebra (Trieste, 1992), World Sci. Publishing, River Edge, NJ, 1994, pp. 140–163. MR 97g:13032
5. _____, *Huneke-Ulrich almost complete intersections of Cohen-Macaulay type two*, J. Algebra **174** (1995), 373–429. MR 96j:13011
6. _____, *Ideals associated to two sequences and a matrix*, Comm. Algebra **23** (1995), 1047–1083. MR 96g:13014
7. _____, *The minimal resolution of a codimension four almost complete intersection is a DG-algebra*, J. Algebra **168** (1994), 371–399. MR 95k:13015
8. Andrew R. Kustin and Susan M. Palmer Slattery, *The Poincaré series of every finitely generated module over a codimension four almost complete intersection is a rational function*, J. Pure Appl. Algebra **95** (1994), 271–295. MR 95h:13016
9. Andrew R. Kustin, *Pfaffian identities, with applications to free resolutions, DG-algebras, and algebras with straightening law*, Commutative Algebra: Syzygies, Multiplicities, and Birational Algebra (South Hadley, MA, 1992), Contemp. Math., vol. 159, Amer. Math. Soc., Providence, RI, 1994, pp. 269–292. MR 95c:13015
10. _____, *Complexes which arise from a matrix and a vector: resolutions of divisors on certain varieties of complexes*, J. Algebra **158** (1993), 420–491. MR 94g:13007
11. _____, *Classification of the Tor-algebras of codimension four almost complete intersections*, Trans. Amer. Math. Soc. **339** (1993), 61–85. MR 93k:13022
12. Andrew R. Kustin and Bernd Ulrich, *If the socle fits*, J. Algebra **147** (1992), 63–80. MR 93e:13017
13. Andrew R. Kustin, Matthew Miller, and Bernd Ulrich, *Generating a residual intersection*, J. Algebra **146** (1992), 335–384. MR 93b:13012
14. Winfried Bruns, Andrew R. Kustin, and Matthew Miller, *The resolution of the generic residual intersection of a complete intersection*, J. Algebra **128** (1990), 214–239. MR 91c:13009
15. Luchezar L. Avramov, Andrew R. Kustin, and Matthew Miller, *Poincaré series of modules over local rings of small embedding codepth or small linking number*, J. Algebra **118** (1988), 162–204. MR 89k:13013
16. Jerrold R. Griggs, Andrew R. Kustin, Jeffrey A. Ross, and Jürgen Stahl, *The lexicographic sum of Cohen-Macaulay and shellable ordered sets*, Graphs Combin. **1** (1985), 145–163. MR 89g:06004
17. Andrew R. Kustin, *Gorenstein algebras of codimension four and characteristic two*, Comm. Algebra **15** (1987), 2417–2429. MR 88j:13020
18. Andrew R. Kustin, Matthew Miller, and Bernd Ulrich, *Linkage theory for algebras with pure resolutions*, J. Algebra **102** (1986), 199–228. MR 88a:13021
19. Andrew R. Kustin, *The minimal free resolutions of the Huneke-Ulrich deviation two Gorenstein ideals*, J. Algebra **100** (1986), 265–304. MR 87i:13005
20. Carl Jacobsson, Andrew R. Kustin, and Matthew Miller, *The Poincaré series of a codimension four Gorenstein ring is rational*, J. Pure Appl. Algebra **38** (1985), 255–275. MR 87f:13021
21. Andrew R. Kustin and Matthew Miller, *Classification of the Tor-algebras of codimension four Gorenstein local rings*, Math. Z. **190** (1985), 341–355. MR 87a:13022
22. _____, *Tight double linkage of Gorenstein algebras*, J. Algebra **95** (1985), 384–397. MR 86k:13023

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23. _____, *Deformation and linkage of Gorenstein algebras*, Trans. Amer. Math. Soc. **284** (1984), 501–534. MR 85k:13015

24. Andrew Kustin, *New examples of rigid Gorenstein unique factorization domains*, Comm. Algebra **12** (1984), 2409–2439. MR 85j:13032

25. Andrew R. Kustin and Matthew Miller, *Constructing big Gorenstein ideals from small ones*, J. Algebra **85** (1983), 303–322. MR 85f:13014

26. _____, *Multiplicative structure on resolutions of algebras defined by Herzog ideals*, J. London Math. Soc. (2) **28** (1983), 247–260. MR 84j:13014

27. J. W. Brewer and A. R. Kustin, *Constructing projective algebras*, J. Algebra **75** (1982), 426–436. MR 84a:13009

28. Andrew R. Kustin and Matthew Miller, *Algebra structures on minimal resolutions of Gorenstein rings*, Commutative Algebra (Fairfax, Va., 1979), Lecture Notes in Pure and Appl. Math., vol. 68, Dekker, New York, 1982, pp. 45–65. MR 83m:13009

29. Andrew Kustin and Matthew Miller, *Structure theory for a class of grade four Gorenstein ideals*, Trans. Amer. Math. Soc. **270** (1982), 287–307. MR 83h:13022

30. Andrew R. Kustin and Matthew Miller, *A general resolution for grade four Gorenstein ideals*, Manuscripta Math. **35** (1981), 221–269. MR 83g:14026

31. Andrew R. Kustin, *A classification of locally power series algebras*, J. Pure Appl. Algebra **17** (1980), 293–303. MR 81k:13006

32. Andrew R. Kustin and Matthew Miller, *Algebra structures on minimal resolutions of Gorenstein rings of embedding codimension four*, Math. Z. **173** (1980), 171–184. MR 81j:13013

33. Andrew R. Kustin, *Locally power series algebras over normal domains*, J. Algebra **64** (1980), 20–28. MR 81g:13007

George F. McNulty

Graduate Education: University of California at Berkeley
Ph.D. June 1972 in Mathematics; Thesis Advisor: Alfred Tarski

Undergraduate Education: Harvey Mudd College, Claremont, California
B.S. June 1967 in Mathematics with Distinction and Departmental Honors

Professional Employment

Permanent Positions

1986–present	Professor	University of South Carolina, Columbia, SC
1991–1994	Department Chair	University of South Carolina, Columbia, SC
1979–86	Associate Professor	University of South Carolina, Columbia, SC
1975–79	Assistant Professor	University of South Carolina, Columbia, SC

Visiting Positions

1995–96	Visiting Professor	University of Hawaii, Honolulu, HI
1994 (Summer)	Visiting Researcher	LaTrobe University, Bundoora, Australia
1985 (Fall)	Visiting Professor	University of Colorado, Boulder, CO
1982–83	Visiting Fulbright Professor	University of The Philippines
1982 (Spring)	Visiting Associate Professor	University of Hawaii, Honolulu, HI
1979 (Fall)	Visiting Associate Professor	University of California, La Jolla, CA
1975 (Summer)	Visiting Research Mathematician	Technische Hochschule, Darmstadt, Germany

Post-doctoral Positions

1973–75	J. W. Young Research Instructor	Dartmouth College, Hanover, NH
1973 (Summer)	Visiting Assistant Researcher	University of California, Berkeley, CA
1972–73	NRC Postdoctorate Fellow	University of Manitoba, Winnipeg, Canada

Awards and Honors

1998	Stanislaw Ulam Lectureship, University of Colorado, Boulder
1994	Hour Invited Address, American Mathematical Society, Lexington, KY
1983	Alexander von Humboldt Research Fellowship, Darmstadt, Germany
1982–83	Fulbright-Hays Professorship, Manila, Philippines
1967–69, 71–72	National Science Foundation Graduate Fellowship, UC Berkeley
1967–68	Honorary Woodrow Wilson Graduate Fellowship, UC Berkeley

Publications: 52 (1 book-coauthored, 1 volume edited, 40 articles in print or in press; 2 books and 8 articles submitted or in preparation).

Invited Addresses And Seminars: 117 at 70 different institutions in 14 countries.

Doctoral Students: 4 completed and 1 in progress.

Masters Students: 4 completed and 1 in progress.

Grant Support: 1 NFS SCREMS grant, 1 NSF ILIG grant, 3 NSF conference organization grants, 1 MSRI program organization grant, 1 NSF research grant, 1 NSF EPSCoR grant (co-investigator), 1 ARCS research grant (co-investigator).

Conference Organizing or Program Committees: 13 international conferences (chair of 4) and 3 regional conferences (chair of 2).

Editing, Refereeing, and Reviewing: Member, Editorial Board of Algebra Universalis, editor for the volume of Algebra Universalis dedicated to Bjarni Jónsson on his 70th birthday, referee for 18 professional journals, and reviewer for grant proposals from 4 agencies.

Service on Other Professional Panels: Senior Fulbright Selection Panel (1995–98 term), SACS Site Panels in 1995 and 1993, NSF Graduate Fellowship Selection Panel 1988.

November 15, 2002 George McNulty

The Publications of George McNulty

Books Authored or Edited

1. Ralph N. McKenzie, George F. McNulty, and Walter F. Taylor, *Algebras, lattices, varieties. Vol. I*, The Wadsworth & Brooks/Cole Mathematics Series, Wadsworth & Brooks/Cole Advanced Books & Software, Monterey, CA, 1987, ISBN 0-534-07651-3 (Volume II is in preparation. Ralph Freese has joined as co-author). MR 88e:08001
2. **George F. McNulty (ed.),** *A volume of Algebra Universalis dedicated to Bjarni Jónsson on the occasion of his seventieth birthday*, Algebra Universalis, vol. 31/32, Birkhäuser, 1994, The 33 papers in this collection bridge two volumes of Algebra Universalis. 1 265 346
3. Ralph N. McKenzie and George F. McNulty, *Computationally undecidable properties of finite algebras*, Lecture Notes in Logic, Springer-Verlag, New York (In Preparation).

Articles

4. George F. McNulty and Ju Wang, *Finitely based finitely generated congruence meet-semidistributive varieties* (In Preparation).
5. Kirby A. Baker, George F. McNulty, and Ju Wang, *A new proof of Willard's Finite Basis Theorem* (In Preparation).
6. George F. McNulty and Ross Willard, *Bad three element algebras* (In Preparation).
7. George F. McNulty and Zoltan Szekely, *Equational complexity of the finite algebra membership problem for varieties of algebras* (Under Revision).
8. George F. McNulty, *Minimum bases for equational theories of groups and rings: The work of Alfred Tarski and Thomas C. Green* (Submitted).
9. George F. McNulty and Ju Wang, *The class of subdirectly irreducible groups generated by a finite group is finitely axiomatizable* (Submitted).
10. George R. Holmes, Aldo Galeazzi, Emilio Franceschina, George F. McNulty, Sandra R. Stader, Angela Q. Forand, DeRosset Myers Jr., and Harry Wright, *Analysis of a Structural Equation Model for the School Reinforcement Survey Schedule (SRSS): Comparison of Italian and American Early Adolescents* (Submitted).
11. George R. Holmes, George F. McNulty, Sandra R. Stader, Angela Q. Forand, and DeRosset Myers Jr., *Exploratory Factor Analyses of the Pychological Trauma and Psychological Resources Scales with College Students* (Submitted).
12. Ralph Freese, George F. McNulty, and J. B. Nation, *Inherently nonfinitely based lattices*, Ann. Pure Appl. Logic **115** (2002), 175–193. 1 897 025
13. William A. Lampe, George F. McNulty, and Ross Willard, *Full duality among graph algebras and flat graph algebras*, Algebra Universalis **45** (2001), 311–334, Conference on Lattices and Universal Algebra (Szeged, 1998). MR 2002a:08006
14. Brian A. Davey, Paweł M. Idziak, William A. Lampe, and George F. McNulty, *Dualizability and graph algebras*, Discrete Math. **214** (2000), 145–172. MR 2001a:08001
15. Zsolt Lengvárszky and George F. McNulty, *Covering in the lattice of subuniverses of a finite distributive lattice*, J. Austral. Math. Soc. Ser. A **65** (1998), 333–353. MR 2000a:06028
16. George R. Holmes, Angela Q. Forand, DeRosset Myers Jr., George F. McNulty, Sandra R. Stader, Tami V. Leonhardt, Robert Caesar, Michael Cuccaro, and Melissa Hood, *An interim report on the development of the psychological trauma and resources scales*, Psychological Reports **80** (1997), 819–831.
17. Jaroslav Ježek and George F. McNulty, *The existence of finitely based lower covers for finitely based equational theories*, J. Symbolic Logic **60** (1995), 1242–1250. MR 96j:08005
18. _____, *Perfect bases for equational theories*, J. Symbolic Comput. **19** (1995), 489–505. MR 96h:08007
19. J. Ježek and G. F. McNulty, *Finite axiomatizability of congruence rich varieties*, Algebra Universalis **34** (1995), 191–213. MR 96f:08005
20. George F. McNulty, *Corrigendum: "Structural diversity in the lattice of equational theories" [Algebra Universalis* **13** *(1981), no. 3, 271–292; MR 83a:08014]*, Algebra Universalis **31** (1994), 614. MR 95e:08020
21. _____, *A field guide to equational logic*, J. Symbolic Comput. **14** (1992), 371–397. MR 94g:03065
22. J. Ježek and G. F. McNulty, *Bounded and well-placed theories in the lattice of equational theories*, Algebra Universalis **26** (1989), 311–331. MR 91m:08005

23. Kirby A. Baker, George F. McNulty, and Walter Taylor, *Growth problems for avoidable words*, Theoret. Comput. Sci. **69** (1989), 319–345. MR 91f:68109
24. Tamás Bajusz, George McNulty, and Ágnes Szendrei, *Lyndon's groupoid is not inherently nonfinitely based*, Algebra Universalis **27** (1990), 254–260. MR 90m:08007
25. Kirby A. Baker, George F. McNulty, and Heinrich Werner, *Shift-automorphism methods for inherently nonfinitely based varieties of algebras*, Czechoslovak Math. J. **39(114)** (1989), 53–69. MR 90a:08004
26. _____, *The finitely based varieties of graph algebras*, Acta Sci. Math. (Szeged) **51** (1987), 3–15. MR 88m:08007
27. George F. McNulty, *Fifteen possible previews in equational logic*, Lectures in Universal Algebra (Szeged, 1983), Colloq. Math. Soc. János Bolyai, vol. 43, North-Holland, Amsterdam, 1986, pp. 307–331. MR 88e:08009
28. _____, *Alfred Tarski and undecidable theories*, J. Symbolic Logic **51** (1986), 890–898. MR 88a:03003
29. _____, *How to construct finite algebras which are not finitely based*, Universal Algebra and Lattice Theory (Charleston, S.C., 1984), Lecture Notes in Math., vol. 1149, Springer, Berlin, 1985, pp. 167–174. MR 87e:08007
30. Henry A. Kierstead, George F. McNulty, and William T. Trotter Jr., *A theory of recursive dimension for ordered sets*, Order **1** (1984), 67–82. MR 86a:06003
31. George F. McNulty, *An extension of Zermelo's Principle and pathological sets in the plane*, Matimyas Matematika **7** (1983), 1–11.
32. George F. McNulty, T. Nordahl, and H. E. Scheiblich, *Injectives and projectives in term finite varieties of algebras*, Canad. J. Math. **35** (1983), 769–775. MR 85j:08022
33. George F. McNulty and Caroline R. Shallon, *Inherently nonfinitely based finite algebras*, Universal Algebra and Lattice Theory (Puebla, 1982), Lecture Notes in Math., vol. 1004, Springer, Berlin, 1983, pp. 206–231. MR 85h:08011
34. Joan P. Hutchinson and George F. McNulty, *Connected graphs of genus g with complementary orbits*, Discrete Math. **45** (1983), 255–275. MR 84j:05055
35. George F. McNulty, *Covering in the lattice of equational theories and some properties of term finite theories*, Algebra Universalis **15** (1982), 115–125. MR 83j:08010
36. _____, *Infinite ordered sets, a recursive perspective*, Ordered Sets (Banff, Alta., 1981), NATO Adv. Study Inst. Ser. C: Math. Phys. Sci., vol. 83, Reidel, Dordrecht, 1982, pp. 299–330. MR 83h:06009
37. _____, *Infinite chains of nonfinitely based equational theories of finite algebras*, Algebra Universalis **13** (1981), 373–378. MR 83a:08015
38. _____, *Structural diversity in the lattice of equational theories*, Algebra Universalis **13** (1981), 271–292. MR 83a:08014
39. Frank Harary and George McNulty, *The orbital partition of a graph*, J. Combin. Inform. System Sci. **5** (1980), 131–133. MR 82f:05052
40. George F. McNulty, *Classes which generate the variety of all lattice-ordered groups*, Ordered Groups (Proc. Conf., Boise State Univ., Boise, Idaho, 1978), Lecture Notes in Pure and Appl. Math., vol. 62, Dekker, New York, 1980, pp. 135–140. MR 82c:06031
41. Jean A. Larson, Richard Laver, and George F. McNulty, *Square-free and cube-free colorings of the ordinals*, Pacific J. Math. **89** (1980), 137–141. MR 82c:03069
42. Dwight R. Bean, Andrzej Ehrenfeucht, and George F. McNulty, *Avoidable patterns in strings of symbols*, Pacific J. Math. **85** (1979), 261–294. MR 81i:20075
43. P. W. Harley III and G. F. McNulty, *When is a point Borel?*, Pacific J. Math. **80** (1979), 151–157. MR 80e:54020
44. George F. McNulty, *Fragments of first order logic. I. Universal Horn logic*, J. Symbolic Logic **42** (1977), 221–237. MR 58 #16255
45. _____, *Undecidable properties of finite sets of equations*, J. Symbolic Logic **41** (1976), 589–604. MR 58 #5154
46. _____, *The decision problem for equational bases of algebras*, Ann. Math. Logic **10** (1976), 193–259. MR 55 #5428
47. M. Makkai and G. McNulty, *Universal Horn axiom systems for lattices of submodules*, Algebra Universalis **7** (1977), 25–31. MR 55 #2682
48. G. McNulty and W. Taylor, *Combinatory interpolation theorems*, Discrete Math. **12** (1975), 193–200. MR 52 #6580
49. B. Jónsson, G. McNulty, and R. Quackenbush, *The ascending and descending varietal chains of a variety*, Canad. J. Math. **27** (1975), 25–31. MR 50 #12860
50. George F. McNulty, *Lattice congruences and Dilworth's decomposition of relatively complemented lattices*, The Dilworth Theorems, Contemp. Mathematicians, Birkhäuser Boston, Boston, MA, 1990, pp. 439–444. 1 111 507
51. _____, *An equational logic sampler*, Rewriting Techniques and Applications (Chapel Hill, NC, 1989), Lecture Notes in Comput. Sci., vol. 355, Springer, Berlin, 1989, pp. 234–262. 1 070 378

Douglas B. Meade

Graduate Education: Carnegie Mellon University, Pittsburgh, Pennsylvania
M.S. December 1986 in Applied Mathematics; Thesis Advisor: Richard C. MacCamy
Ph.D. May 1989 in Mathematics; Thesis Advisor: Richard C. MacCamy

Undergraduate Education: Bowling Green State University, Bowling Green, Ohio
B.S. May 1980 in Mathematics (Summa Cum Laude and with Honors)
B.S. May 1980 in Computer Science (Summa Cum Laude)

Professional Employment

Permanent Positions

1997–present	Associate Professor	University of South Carolina, Columbia, SC
2001–present	Undergraduate Director	University of South Carolina, Columbia, SC
1999–present	Member	Industrial Mathematics Institute University of South Carolina, Columbia, SC
1997–present	Associated Faculty	School of the Environment University of South Carolina, Columbia, SC
1991–97	Assistant Professor	University of South Carolina, Columbia, SC

Visiting Positions

1999 (Spring)	Visiting Research Professor	Institute for Mathematics and Its Applications University of Minnesota
1994 (Summer)	Visiting Researcher	Naval Air Weapons Center China Lake, CA

Post-doctoral Positions

1989–91	Research Assistant Professor	Purdue University, West Lafayette, IN

Awards and Honors

1997, 98 Golden Key Faculty Award for Creative Integration of Research and Undergraduate Teaching (nominated)

1994–95 Lilly Teaching Fellow, University of South Carolina

Publications: 35 (17 refereed articles in print in journals or conference proceedings, 7 books-authored or coauthored, 2 chapters in books, 3 electronic publications, 3 technical reports, 1 published book review, and 3 chapters and articles submitted or in preparation).

Addresses And Seminars: 74 at 64 different institutions in 7 countries (33 invited addresses or seminars, 22 contributed addresses, 19 workshops)

Masters Students: 1 completed and 2 in progress.

Undergraduate Research Students: 2 (1 Goldwater Fellow; 1 Budapest Semester participant)

Grant Support: 2 NSF research grants, 1 NSF ILIG grant (co-PI), 1 NSF SCREMS grant (co-PI), 1 NSF EPSCoR grant (co-PI), 2 DEPSCoR/ONR (co-PI), 1 DOD/ONR (co-PI), 1 PICS (co-PI), 1 Dept. of Educ., Inst. for Math. & Its Applic., Math. Sci. Research Institute.

Conference Organizing or Program Committees: 5 international conferences (chair of 2), 2 minisymposia for national conferences (chair of 2), and 2 regional conferences (co-chair of 2).

Editing, Refereeing, and Reviewing: Member, Editorial Board of MAA Classroom Resource Materials, referee for 27 manuscripts for 9 professional journals, reviewer for 16 grant proposals from 5 funding programs, and reviewer for 30 manuscripts for 12 publishers.

Service on Other Professional Panels: CoSM Computer Advisory Committee (1996–present, chair: 2001–present), USC Goldwater Selection Committee (1995–present, chair: 1996–present), Board of Directors, Mathematics Division, ASEE (1997–1999).

November 15, 2002 Douglas B. Meade

The Publications of Douglas Meade

Books

1. Douglas B. Meade, Instructor's Maple Manual to accompany *Linear Algebra and Its Applications*, Third Edition, by David C. Lay, Addison Wesley Longman, 2003, ISBN 0-321-12219-4 (vi+72 pp.).
2. Robert J. Lopez, Constant Goutziers, and Douglas B. Meade, Instructor's Technology Resources and Solutions Guide that supplements Robert J. Lopez' *Advanced Engineering Mathematics*, Addison Wesley Longman, 2002, ISBN 0-201-71001-3 (xxviii+333 pp.).
3. Robert J. Lopez, Constant Goutziers, and Douglas B. Meade, Student's Technology Resources and Solutions Guide that supplements Robert J. Lopez' *Advanced Engineering Mathematics*, Addison Wesley Longman, 2002, ISBN 0-201-71004-8 (xxviii+181 pp.).
4. Douglas B. Meade, Technology Resource Manual: Maple to accompany Thomas' *Calculus* and Thomas' *Calculus, Early Transcendentals*, 10^{th} Edition, Addison Wesley Longman, 2001, ISBN 0-201-72197-x (iv+55 pp.).
5. Douglas B. Meade, Instructor's Maple Manual to accompany *Linear Algebra and Its Applications*, Updated Second Edition, by David C. Lay, Addison Wesley Longman, 2000, ISBN 0-201-64849-0 (56 pp.).
6. Douglas B. Meade and Etan Bourkoff, Engineer's Toolkit: Maple V for Engineers, Addison–Wesley, 1998, ISBN 0-8053-6445-5 (vi + 154 pp. + 74 pp. available only in electronic form via the WWW).
7. Douglas B. Meade, Maple-Based Instructor's Guide for Introductory Differential Equations with Sample Worksheets and Projects: A Supplement to *Fundamentals of Differential Equations*, by R.K. Nagle and E.B. Saff, Addison–Wesley, 1996, ISBN 0-201-96429-5 (v + 142 pp. plus WWW pages containing Maple worksheets and PostScript files for downloading, updated to Maple V Release 4 in January 1997).

Chapters in Books

8. Douglas B. Meade, Maple Technology Resource Manual, in Technology Resource Manual that accompanies Johnson, Reiss, and Arnold's *Introduction to Linear Algebra*, Fifth Edition, Addison Wesley Longman, 2002, ISBN 0-201-75812-1 (49 pp.).
9. Douglas B. Meade, *Notes for the Maple Computer Algebra System*, Appendix to *Study Guide for Linear Algebra*, Updated Second Edition, by David C. Lay, Addison Wesley Longman, 2000, ISBN 0-201-64847-4 (18 pp.).

Refereed Journal Articles

10. D. B. Meade and A. A. Struthers, *Differential equations in the new millennium: the parachute problem*, Int. J. Engng. Ed. **15**(6) 1999, pp. 417–424.
11. G. Donald Allen, Jim Herod, Mark Holmes, Vince Ervin, Robert Lopez, Joe Marlin, Douglas B. Meade, and David Sanchez, *Strategies and Guidelines for Using a Computer Algebra System in the Classroom*, Int. J. Engng. Ed. **15**(6) 1999, pp. 411–416.
12. Douglas B. Meade, *ODE models for the parachute problem*,SIAM Review **40**(2) June 1998, pp. 327–332.
13. Douglas B. Meade, *Maple and the parachute problem: modelling with an impact*, MapleTech, **4**(1) 1997, pp. 68–76.
14. B. Lichtenberg, K.J. Webb, D.B. Meade, and A.F. Peterson, *Comparison of two-dimensional conformal local radiation boundary conditions*, Electromagnetics, **16**(4) July-August 1996, pp. 359–384.
15. Douglas B. Meade, Bala S. Haran, and Ralph E. White, *The shooting technique for the solution of two-point boundary value problems*, MapleTech, **3**(1) 1996, pp. 85–93.
16. Douglas B. Meade, *Numerical, graphical and symbolic analysis of Bernoulli equations*, MapleTech, **2**(1) 1995, pp. 67–77.
17. Douglas B. Meade, G. William Slade, Andrew F. Peterson, and Kevin J. Webb, *Comparison of local radiation boundary conditions for the scalar Helmholtz equation with general boundary shapes*, IEEE Trans. on Antennas and Propagation (43) 1995, pp. 6–10.
18. Douglas B. Meade, *Applications of generalized stress in elastodynamics*, Quart. Appl. Math. (49) 1991, pp. 121–145.

Submitted Journal Articles

19. M. Filaseta and D. B. Meade, *Irreducibility testing of lacunary 0,1–polynomials*, submitted, 2001.

Refereed Conference Proceedings

20. Jim Douglas, Jr. and Douglas B. Meade, *Second-order transmission conditions for the Helmholtz equation*, in

Ninth International Conference on Domain Decomposition Methods, P. Björstad, M. Espedal, and D. Keyes (eds.), Domain Decomposition Press, Bergen (Norway), 1998, pp. 434–440.

21. Douglas B. Meade, Andrew F. Peterson, and Catherine Piellusch-Castle, *Derivation and comparison of radiation boundary conditions for the two-dimensional Helmholtz equation with non-circular artificial boundaries*, in Proceedings of the Third International Conference on Mathematical and Numerical Aspects of Wave Propagation Phenomena, E. Bécache, G. Cohen, P. Joly, J.E. Roberts (eds), SIAM Proceedings in Applied Mathematics 77, Mandelieu-La Napoule, France, 1995, pp. 506–514.
22. Bernd Lichtenberg, Ying-shang Liu, Jeffrey S. Reynolds, Kevin J. Webb, and Douglas B. Meade, *Applications and performance of a local conformal radiation boundary condition*, in IEEE Antennas and Propagation Society International Symposium, 1994 Digest, pp. 406–409.
23. Catherine Piellusch–Castle, Ying-shang Liu, Bernd Lichtenberg, Douglas B. Meade, and Kevin J. Webb, *A comparison of radiation boundary condition strategies for Helmholtz equations*, Proceedings of the Fourteenth IMACS World Congress on Computation and Applied Mathematics, Atlanta, GA, pp. 886–889, July 1994.
24. Douglas B. Meade and Fabio A. Milner, *S–I–R epidemic models with directed diffusion*, in "Mathematical Aspects of Human Diseases", Giuseppe Da Prato (ed.), Applied Mathematics Monographs 3, Giardini Editori, Pisa, 1992.
25. Douglas B. Meade, G. William Slade, Andrew F. Peterson, and Kevin J. Webb, *Analytic evaluation of the accuracy of several conformable local absorbing boundary conditions* in IEEE Antennas and Propagation Society International Symposium, 1992 Digest, Volume 1, pp. 540–543.
26. Douglas B. Meade and Fabio A. Milner, *An S–I–R model for epidemics with diffusion to avoid infection and overcrowding*, Proceedings of the 13th IMACS World Congress on Computation and Applied Mathematics (v. 3), R. Vichnevetshy, J.J.H. Miller, eds., IMACS, Dublin, 1991, pp. 1444–1445.
27. Richard C. MacCamy and Douglas B. Meade, *An epidemic model with directed diffusion*, in Biomedical Modelling and Simulation, J. Eisenfeld and D.S. Levine, eds., IMACS Ann. Comput. Appl. Math., 5, Paris, 1989, pp. 197–199.

Electronic Publications

28. Douglas B. Meade, Maple Manual to accompany Calculus by Elgin H. Johnston and Jerold Mathews, Addison Wesley Longman, 2002 (iv+53 pp.) to be available as a PDF file at URL: http://www.awl.com/johnston/
29. Douglas B. Meade *ODE PowerTool*, a collection of 35 Maple worksheets for a complete introductory course in differential equations available for free download from Waterloo Maple, Inc., 2001, URL: http://www.mapleapps.com/powertools/des/des.shtml
30. Douglas B. Meade and Etan Bourkoff, Chapters 6 & 7 of Engineer's Toolkit: Maple V for Engineers, Addison–Wesley, 1998, ISBN 0-8053-6445-5 (74 pp.) available only as a PDF file via the WWW:

Chapter 6	Advanced Engineering Computations http://www.math.sc.edu/ meade/toolkit/ch06.pdf
Chapter 7	Introduction to Maple Programming http://www.math.sc.edu/ meade/toolkit/ch07.pdf

Technical Reports

31. Douglas B. Meade and Charles A. Nicol, *Maple tools for use in conjecture testing and iteration mappings in number theory*, IMI Research Report 1993:06 (Department of Mathematics, University of South Carolina), 1993.
32. Douglas B. Meade, *Qualitative analysis of an epidemic model with directed dispersion*, IMA Preprint Series, #916, 1992.
33. Douglas B. Meade, *Analysis for an epidemic model with diffusion to avoid infection*, Technical Report #140, Center for Applied Mathematics, Purdue University, 1990.

Other Publications

34. Douglas B. Meade (ed.), *WV — A User-Friendly Image Processing Package using Wavelets: Documentation for Version 1.0*, 1994.

In Preparation

35. D. B. Meade and K. Spurrier, *Vaccination Strategies for an S E I R Model with a Variable-Sized Population*, in preparation.

Matthew Miller

Graduate Education: University of Illinois at Champaign-Urbana
Ph.D. May 1979 in Mathematics; Thesis Advisor: Phil Griffith

Undergraduate Education: Columbia University (NYC)
A.B. February 1973 in Mathematics.

Professional Employment

Permanent Positions

1991–present	Professor	University of S. Carolina, Columbia, SC
1991–1995	Assistant Chair	University of S. Carolina, Columbia, SC
1984–1991	Associate Professor	University of S. Carolina, Columbia, SC
1979–1984	Assistant Professor	University of Tennessee, Knoxville, TN

Other Positions

1999-2000	Sabbatical Visitor	USC Dept. of Biological Sciences
Spring, 1991	Visiting Associate Professor	Rutgers University, New Brunswick, NJ
Fall, 1990	Visiting Scholar	Brandeis University, Waltham, MA
Spring, 1984	Visiting Assistant Professor	University of Virginia, Charlottesville, VA
Fall, 1983	Visiting Assistant Professor	University of S. Carolina, Columbia, SC

Publications: 28 (27 articles in print; 1 submitted).

Invited Addresses, Workshop Presentations, External Colloquia and Seminars: over 40 in the US and Sweden, W. Germany, E. Germany, Poland, Italy, Brazil, Mexico, and Canada at 35 venues.

Doctoral Students: 2 completed.

Grant Support: NSF summer research grants: 1981–83, 1986–89, 91, 92; NSF equipment grants: 1992, 1994; travel grants: 1981, 1983 (2); internal USC grants: 1985, 1994–95, 1996–97, 1999.

Conference Organizing or Program Committees: 3 regional conferences.

Refereeing and Reviewing: proposal reviewer for NSF (including 1 panel) and NSA; referee for 9 professional journals, reviewer for Mathematical Reviews and Zentralblatt für Mathematik, external evaluator for 5 tenure and / or promotion cases.

Service of Other Professional Panels: AMS Southeastern Region Program Selection Committee (1993–95); NSF IGERT panel (2000).

The Publications of Matthew Miller

1. Matthew Miller, S. Viscido, and D. S. Wethey, *Group foraging: coincidental gathering or local enhancement?*, Journal of Animal Ecology (submitted).
2. _____, *The dilemma of the selfish herd: the search for a realistic movement rule*, Theoretical Biology **217** (2002), 183–194.
3. _____, *The response of a selfish herd to an attack from outside the group perimeter*, Theoretical Biology **208** (2001), 315–328.
4. Matthew Miller and D. S. Wethey, *Resource competition in algea: a class project in Mathematical Biology*, MapleTech **4** (1997), 78–85, Educational article based on work by students H. Agler, A. Ahearn, A. Kitchell, N. Lopanik, and H. Miller.
5. Matthew Miller and Rafael H. Villarreal, *A note on generators of least degree in Gorenstein ideals*, Proc. Amer. Math. Soc. **124** (1996), 377–382. MR 96d:13023
6. Matthew Miller, *Betti numbers of modules of finite length*, International Seminar on Algebra and Its Applications (Spanish) (México City, 1991), Aportaciones Mat. Notas Investigación, vol. 6, Soc. Mat. Mexicana, México, 1992, pp. 43–48. MR 95k:13016
7. _____, *Multiplicative structures on finite free resolutions*, Free Resolutions in Commutative Algebra and Algebraic Geometry (Sundance, UT, 1990), Res. Notes Math., vol. 2, Jones and Bartlett, Boston, MA, 1992, pp. 35–46. MR 93d:13025
8. Andrew R. Kustin, Matthew Miller, and Bernd Ulrich, *Generating a residual intersection*, J. Algebra **146** (1992), 335–384. MR 93b:13012
9. Winfried Bruns, Andrew R. Kustin, and Matthew Miller, *The resolution of the generic residual intersection of a complete intersection*, J. Algebra **128** (1990), 214–239. MR 91c:13009
10. Hara Charalambous, E. Graham Evans, and Matthew Miller, *Betti numbers for modules of finite length*, Proc. Amer. Math. Soc. **109** (1990), 63–70. MR 90j:13021
11. Luchezar L. Avramov, Andrew R. Kustin, and Matthew Miller, *Poincaré series of modules over local rings of small embedding codepth or small linking number*, J. Algebra **118** (1988), 162–204. MR 89k:13013
12. Matthew Miller and Bernd Ulrich, *Linkage and compressed algebras*, Proceedings of the Conference on Algebraic Geometry (Berlin, 1985), Teubner-Texte Math., vol. 92, Teubner, Leipzig, 1986, pp. 267–275. MR 89b:13035
13. Andrew R. Kustin, Matthew Miller, and Bernd Ulrich, *Linkage theory for algebras with pure resolutions*, J. Algebra **102** (1986), 199–228. MR 88a:13021
14. Carl Jacobsson, Andrew R. Kustin, and Matthew Miller, *The Poincaré series of a codimension four Gorenstein ring is rational*, J. Pure Appl. Algebra **38** (1985), 255–275. MR 87f:13021
15. Craig Huneke and Matthew Miller, *A note on the multiplicity of Cohen-Macaulay algebras with pure resolutions*, Canad. J. Math. **37** (1985), 1149–1162. MR 87d:13024
16. Jürgen Herzog and Matthew Miller, *Gorenstein ideals of deviation two*, Comm. Algebra **13** (1985), 1977–1990. MR 87b:13027
17. Andrew R. Kustin and Matthew Miller, *Classification of the Tor-algebras of codimension four Gorenstein local rings*, Math. Z. **190** (1985), 341–355. MR 87a:13022
18. _____, *Tight double linkage of Gorenstein algebras*, J. Algebra **95** (1985), 384–397. MR 86k:13023
19. D. Costa, C. Huneke, and M. Miller, *Complete local domains of type two are Cohen-Macaulay*, Bull. London Math. Soc. **17** (1985), 29–31. MR 86f:13016
20. Andrew R. Kustin and Matthew Miller, *Deformation and linkage of Gorenstein algebras*, Trans. Amer. Math. Soc. **284** (1984), 501–534. MR 85k:13015
21. _____, *Constructing big Gorenstein ideals from small ones*, J. Algebra **85** (1983), 303–322. MR 85f:13014
22. _____, *Multiplicative structure on resolutions of algebras defined by Herzog ideals*, J. London Math. Soc. (2) **28** (1983), 247–260. MR 84j:13014
23. _____, *Algebra structures on minimal resolutions of Gorenstein rings*, Commutative Algebra (Fairfax, Va., 1979), Lecture Notes in Pure and Appl. Math., vol. 68, Dekker, New York, 1982, pp. 45–65. MR 83m:13009
24. Andrew Kustin and Matthew Miller, *Structure theory for a class of grade four Gorenstein ideals*, Trans. Amer. Math. Soc. **270** (1982), 287–307. MR 83h:13022

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25. Andrew R. Kustin and Matthew Miller, *A general resolution for grade four Gorenstein ideals*, Manuscripta Math. **35** (1981), 221–269. MR 83g:14026

26. _____, *Algebra structures on minimal resolutions of Gorenstein rings of embedding codimension four*, Math. Z. **173** (1980), 171–184. MR 81j:13013

27. Matthew Miller, *Bourbaki's theorem and prime ideals*, J. Algebra **64** (1980), 29–36. MR 81h:13007

28. _____, *Self-duality of rank-2 reflexive modules*, J. Pure Appl. Algebra **16** (1980), 275–284. MR 81g:13008

Peter J. Nyikos

Graduate Education: Carnegie-Mellon University
Ph.D. 1971 in Mathematics; Thesis Advisor: S. Franklin
M.S. 1968 in Mathematics

Undergraduate Education: Washington and Jefferson College
B.A. 1967 summa cum laude, Phi Beta Kappa, in Mathematics

Professional Employment

Permanent Positions

1987–present	Professor	University of South Carolina, Columbia, SC
1979–1989	Associate Professor	University of South Carolina, Columbia, SC

Visiting Positions

2000–2001	Visiting Professor	University of Michigan, Ann Arbor, MI
Fall 1993	Visiting Professor	University of Colorado, Boulder, CO
Fall 1985	Sabbatical Visitor	Dartmouth College, Hanover, NH
1977–1979	Mathematics Fellow	Insitute of Medicine, Ohio University
1976–1979	Visiting Assistant Professor	Auburn University, Auburn, AL
Fall 1978	Visiting Assistant Professor	Ohio University
1974–1976	Visiting Lecturer	University of Illinois, Urbana-Champaigne, IL

Postdoctoral Position

1973–1974	NSF Postdoctoral Fellow	University of Chicago, Chicago, IL

Military Positions

1972–1973	1st Lt/Mathematician	Biomedical Laboratory, Edgewood Arsenal, MD
1971–1972	1st Lt/ADPS Officer	MISD, Edgewood Arsenal, MD

Honors and Awards

1990	Russell Research Award in Science and Engineering
1986	SERC Research Fellowship at University of Oxford, England
1973	Army Commendation Medal
1971	NSF Postdoctoral Fellowship (for 1973-1974, University of Chicago)
1967–1970	NDEA Graduate Fellowship, Carnegie-Mellon UNiversity

Publications: 83 refereed articles in print and 12 unrefereed articles.

Inivited Addresses and Seminars: 55 conference addresses in 12 countries; 52 colloquia or external seminars at 43 institutions in 10 countries.

Grant Support: NSF research grants 1980–1999.

Doctoral Students: 6 completed.

Masters Students: 6 completed.

Editing, Refereeing, and Reviewing: Editorial boards: Topology and Its Applications (1983–present), Topology Proceedings (Problem Section Editor, 1976–1996); reviewer for Mathematical Reviews;

Confernce Organizing or Program Committees: 2 special sessions for the American Mathematical Society and 3 regional conferences (chair or co-chair of 2).

November 15, 2002 Peter J. Nyikos

The Publications of Peter Nyikos

1. Peter J. Nyikos, *A history of the normal Moore space problem*, Handbook of the History of General Topology, Vol. 3, Hist. Topol., vol. 3, Kluwer Acad. Publ., Dordrecht, 2001, pp. 1179–1212. 1 900 271
2. _____, *Hereditarily normal, locally compact Dowker spaces*, Proceedings of the 1999 Topology and Dynamics Conference (Salt Lake City, UT), vol. 24, 1999, pp. 261–276. MR 2001i:54017
3. Todd Eisworth and Peter Nyikos, *Recent applications of totally proper forcing*, Proceedings of the 1998 Topology and Dynamics Conference (Fairfax, VA), vol. 23, 1998, pp. 339–348. MR 2001b:03048
4. Peter J. Nyikos, *Metrizability, monotone normality, and other strong properties in trees*, Topology Appl. **98** (1999), 269–290, II Iberoamerican Conference on Topology and its Applications (Morelia, 1997). MR 2000m:54034
5. J. Donald Monk and Peter Nyikos, *On cellularity in homomorphic images of Boolean algebras*, Proceedings of the 12th Summer Conference on General Topology and Its Applications (North Bay, ON, 1997), vol. 22, 1997, pp. 341–362. MR 2000m:03122
6. Peter J. Nyikos, *On some non-Archimedean spaces of Alexandroff and Urysohn*, Topology Appl. **91** (1999), 1–23. MR 2000f:54025
7. _____, *Various topologies on trees*, Proceedings of the Tennessee Topology Conference (Nashville, TN, 1996), World Sci. Publishing, River Edge, NJ, 1997, pp. 167–198. MR 98m:54037
8. P. Nyikos, L. Soukup, and B. Veličković, *Hereditary normality of $\gamma\mathbf{N}$-spaces*, Topology Appl. **65** (1995), 9–19. MR 96j:54027
9. Peter Nyikos and Leszek Piatkiewicz, *On the equivalence of certain consequences of the proper forcing axiom*, J. Symbolic Logic **60** (1995), 431–443. MR 96f:03038
10. _____, *Paracompact subspaces in the box product topology*, Proc. Amer. Math. Soc. **124** (1996), 303–314. MR 96d:54019
11. Peter J. Nyikos, *Mary Ellen Rudin's contributions to the theory of nonmetrizable manifolds*, The Work of Mary Ellen Rudin (Madison, WI, 1991), Ann. New York Acad. Sci., vol. 705, New York Acad. Sci., New York, 1993, pp. 92–113. MR 95g:54003
12. Jamel A. Kammoun and Peter J. Nyikos, *Normality in products with a non-Archimedean factor*, Topology Appl. **56** (1994), 175–184. MR 95f:54022
13. P. Nyikos, *Countably metacompact, locally countable spaces in the constructible universe*, Topology. Theory and Applications, II (Pécs, 1989), Colloq. Math. Soc. János Bolyai, vol. 55, North-Holland, Amsterdam, 1993, pp. 411–424. MR 94i:54047
14. Alan Dow and Peter Nyikos, *Representing free Boolean algebras*, Fund. Math. **141** (1992), 21–30. MR 94c:03063
15. G. Gruenhage and P. J. Nyikos, *Normality in X^2 for compact X*, Trans. Amer. Math. Soc. **340** (1993), 563–586. MR 94b:54009
16. Peter J. Nyikos, *Subsets of ${}^{\omega}\omega$ and the Fréchet-Urysohn and α_i-properties*, Topology Appl. **48** (1992), 91–116. MR 93k:54011
17. Peter J. Nyikos and Jerry E. Vaughan, *The Scarborough-Stone problem for Hausdorff spaces*, Proceedings of the Symposium on General Topology and Applications (Oxford, 1989), vol. 44, 1992, pp. 309–316. MR 93j:54015
18. P. J. Nyikos and H.-C. Reichel, *Topological characterizations of ω_μ-metrizable spaces*, Proceedings of the Symposium on General Topology and Applications (Oxford, 1989), vol. 44, 1992, pp. 293–308. MR 93i:54021
19. Peter J. Nyikos, *Hereditary normality versus countable tightness in countably compact spaces*, Proceedings of the Symposium on General Topology and Applications (Oxford, 1989), vol. 44, 1992, pp. 271–292. MR 93i:54003
20. _____, *Various smoothings of the long line and their tangent bundles*, Adv. Math. **93** (1992), 129–213. MR 93h:54003
21. Gregory H. Moore, *Recognizing finiteness. Letter to the editor: "Formal systems. Comment on: 'The happy formalist'" [Math. Intelligencer* **13** *(1991), no. 3, 4–5; MR 93d:00015] by P. J. Nyikos*, Math. Intelligencer **14** (1992), 5. MR 93d:00016
22. Peter J. Nyikos, *Formal systems. Comment on: "The happy formalist" [Math. Intelligencer* **13** *(1991), no. 1, 12–18; MR 92c:00005] by J. M. Henle*, Math. Intelligencer **13** (1991), 4–5. MR 93d:00015
23. Sidney A. Morris and Peter J. Nyikos, *Sudden cardiac arrest and a problem in topology*, J. Austral. Math. Soc. Ser. B **33** (1991), 123–132. MR 92k:92011

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24. Peter J. Nyikos, *Classes of compact sequential spaces*, Set Theory and Its Applications (Toronto, ON, 1987), Lecture Notes in Math., vol. 1401, Springer, Berlin, 1989, pp. 135–159. MR 91k:54044
25. Zoltán Balogh, Joe Masburn, and Peter Nyikos, *Countable covers of spaces by migrant sets*, Topology Proc. **14** (1989), 7–23. MR 91k:54039
26. Peter J. Nyikos, *On first countable, countably compact spaces. II. Remainders in a van Douwen construction and P-ideals*, Topology Appl. **35** (1990), 185–196. MR 91j:54066
27. John Kulesza, Ronnie Levy, and Peter Nyikos, *Extending discrete-valued functions*, Trans. Amer. Math. Soc. **324** (1991), 293–302. MR 91f:54009
28. Peter Nyikos, *Discrete G_δ-sets in Morita P-spaces*, Questions Answers Gen. Topology **6** (1988), 163–170. MR 91c:54037
29. P. J. Nyikos and S. Purisch, *Monotone normality and paracompactness in scattered spaces*, Papers on General Topology and Related Category Theory and Topological Algebra (New York, 1985/1987), Ann. New York Acad. Sci., vol. 552, New York Acad. Sci., New York, 1989, pp. 124–137. MR 91b:54044
30. I. Juhász and P. Nyikos, *Omitting cardinals in tame spaces*, Colloq. Math. **57** (1989), 193–202. MR 90m:54008
31. Peter Nyikos, *The Cantor tree and the Fréchet-Urysohn property*, Papers on General Topology and Related Category Theory and Topological Algebra (New York, 1985/1987), Ann. New York Acad. Sci., vol. 552, New York Acad. Sci., New York, 1989, pp. 109–123. MR 90j:54029
32. D. H. Fremlin and P. J. Nyikos, *Saturating ultrafilters on* $\mathbb{N}$, J. Symbolic Logic **54** (1989), 708–718. MR 90i:03050
33. H. A. Kierstead and P. H. Nyikos, *Racing pawn games*, Congr. Numer. **67** (1988), 257–264, Nineteenth Southeastern Conference on Combinatorics, Graph Theory, and Computing (Baton Rouge, LA, 1988). MR 90c:90245
34. Henry A. Kierstead and Peter J. Nyikos, *Hypergraphs with finitely many isomorphism subtypes*, Trans. Amer. Math. Soc. **312** (1989), 699–718. MR 90c:05157
35. P. Nyikos, *Progress on countably compact spaces*, General Topology and Its Relations to Modern Analysis and Algebra, VI (Prague, 1986), Res. Exp. Math., vol. 16, Heldermann, Berlin, 1988, pp. 379–410. MR 89i:54034
36. Peter J. Nyikos, *The complete tunnel axiom*, Topology Appl. **29** (1988), 1–18. MR 89f:54052
37. Z. Balogh, A. Dow, D. H. Fremlin, and P. J. Nyikos, *Countable tightness and proper forcing*, Bull. Amer. Math. Soc. (N.S.) **19** (1988), 295–298. MR 89e:03088
38. P. J. Nyikos and J. E. Vaughan, *Sequentially compact, Franklin-Rajagopalan spaces*, Proc. Amer. Math. Soc. **101** (1987), 149–155. MR 88g:54046
39. Peter Nyikos, *The theory of nonmetrizable manifolds*, Handbook of Set-Theoretic Topology, North-Holland, Amsterdam, 1984, pp. 633–684. MR 86f:54054
40. P. Nyikos, *Set-theoretic topology of manifolds*, General Topology and Its Relations to Modern Analysis and Algebra, V (Prague, 1981), Sigma Ser. Pure Math., vol. 3, Heldermann, Berlin, 1983, pp. 513–526. MR 85i:54004
41. P. Dzh. Nikosh, *A topological test space for many axioms of set theory*, Uspekhi Mat. Nauk **38** (1983), 97–103, Translated from the English by M. M. Zarichnyĭ. MR 85i:03159 (Russian)
42. Peter J. Nyikos and Jerry E. Vaughan, *On first countable, countably compact spaces. I. (ω_1, ω_1^*)-gaps*, Trans. Amer. Math. Soc. **279** (1983), 463–469. MR 85c:54009
43. M. Ismail and P. Nyikos, *Countable small rank and cardinal invariants. II*, Topology Appl. **14** (1982), 283–304. MR 85c:54003
44. Peter Nyikos, *F. Burton Jones's contributions to the normal Moore space problem*, Topology Conference, 1979 (Greensboro, N.C., 1979), Guilford College, Greensboro, N.C., 1980, pp. 27–38. MR 83j:54022
45. Peter J. Nyikos, *Metrizability and the Fréchet-Urysohn property in topological groups*, Proc. Amer. Math. Soc. **83** (1981), 793–801. MR 82k:54049
46. ———, *Tunnels, tight gaps, and countably compact extensions of* $\mathbb{N}$, The Proceedings of the 1980 Topology Conference (Univ. Alabama, Birmingham, Ala., 1980), vol. 5, 1980, pp. 223–229 (1981). MR 82k:54028
47. ———, *A survey of two problems*, Proceedings of the 1978 Topology Conference (Univ. Oklahoma, Norman, Okla., 1978), II, vol. 3, 1978, pp. 461–471 (1979). MR 82i:54046
48. ———, *Axioms, theorems, and problems related to the Jones lemma*, General Topology and Modern Analysis (Proc. Conf., Univ. California, Riverside, Calif., 1980), Academic Press, New York, 1981, pp. 441–449. MR 82g:54010
49. P. Nyikos and H.-C. Reichel, *Some results on cardinal functions in metrization theory*, Glas. Mat. Ser. III **15(35)** (1980), 183–202. MR 82f:54008 (English, with Serbo-Croatian summary)

November 15, 2002 Peter J. Nyikos

50. P. Nyikos, *Some normal Moore spaces*, Topology, Vol. II (Proc. Fourth Colloq., Budapest, 1978), Colloq. Math. Soc. János Bolyai, vol. 23, North-Holland, Amsterdam, 1980, pp. 883–903. MR 81m:54057

51. Peter J. Nyikos, *A provisional solution to the normal Moore space problem*, Proc. Amer. Math. Soc. **78** (1980), 429–435. MR 81k:54044

52. _____, *The topological structure of the tangent and cotangent bundles on the long line*, The Proceedings of the 1979 Topology Conference (Ohio Univ., Athens, Ohio, 1979), vol. 4, 1979, pp. 271–276 (1980). MR 81j:58012

53. Mohammad Ismail and Peter Nyikos, *On spaces in which countably compact sets are closed, and hereditary properties*, Topology Appl. **11** (1980), 281–292. MR 81j:54043

54. Peter J. Nyikos, *Order-theoretic base axioms*, Surveys in General Topology, Academic Press, New York, 1980, pp. 367–398. MR 81g:54041

55. Peter Nyikos, *The normal Moore space problem*, Proceedings of the 1978 Topology Conference (Univ. Oklahoma, Norman, Okla., 1978), II, vol. 3, 1978, pp. 473–493 (1979). MR 80k:54051

56. Peter J. Nyikos, *Covering properties on σ-scattered spaces*, Proceedings of the 1977 Topology Conference (Louisiana State Univ., Baton Rouge, La., 1977), II, vol. 2, 1977, pp. 509–542 (1978). MR 80k:54045

57. S. W. Davis, G. Gruenhage, and P. J. Nyikos, *G_δ sets in symmetrizable and related spaces*, General Topology Appl. **9** (1978), 253–261. MR 80a:54052

58. Peter Nyikos, *On the product of metacompact spaces. I. Connections with hereditary compactness*, Amer. J. Math. **100** (1978), 829–835. MR 80a:54041

59. G. Gruenhage and P. Nyikos, *Spaces with bases of countable rank*, General Topology and Appl. **8** (1978), 233–257. MR 58 #12949

60. Peter J. Nyikos, *Inverse preservation of small inductive dimension*, Topology Proceedings, Vol. I (Conf., Auburn Univ., Auburn, Ala., 1976), Math. Dept., Auburn Univ., Auburn, Ala., 1977, pp. 63–66. MR 57 #13878

61. P. Nyikos, *Countable small rank and cardinal invariants*, General Topology and Its Relations to Modern Analysis and Algebra, IV (Proc. Fourth Prague Topological Sympos., Prague, 1976), Part B, Soc. Czechoslovak Mathematicians and Physicists, Prague, 1977, pp. 344–347. MR 57 #4067

62. Peter J. Nyikos, *Epireflective categories of Hausdorff spaces*, Categorical Topology (Proc. Conf., Mannheim, 1975), Springer, Berlin, 1976, pp. 452–481. Lecture Notes in Math., Vol. 540. MR 56 #6589

63. W. F. Lindgren and P. J. Nyikos, *Spaces with bases satisfying certain order and intersection properties*, Pacific J. Math. **66** (1976), 455–476. MR 56 #3794

64. Peter J. Nyikos, *Some surprising base properties in topology. II*, Set-Theoretic Topology (Papers, Inst. Medicine and Math., Ohio Univ., Athens, Ohio, 1975–1976), Academic Press, New York, 1977, pp. 277–305. MR 56 #1264

65. Peter Nyikos, *A survey of zero-dimensional spaces*, Topology (Proc. Ninth Annual Spring Conf., Memphis State Univ., Memphis, Tenn., 1975), Lecture Notes in Pure and Appl. Math., Vol. 24, Dekker, New York, 1976, pp. 87–114. MR 56 #1245

66. P. Nyikos and H. C. Reichel, *On uniform spaces with linearly ordered bases. II. (ω_μ-metric spaces)*, Fund. Math. **93** (1976), 1–10. MR 55 #13390

67. P. J. Nyikos and H.-C. Reichel, *Topologically orderable groups*, General Topology and Appl. **5** (1975), 195–204. MR 51 #8322

68. P. Nyikos, *Strongly zero-dimensional spaces*, General Topology and Its Relations to Modern Analysis and Algebra, III (Proc. Third Prague Topological Sympos., 1971), Academia, Prague, 1972, pp. 341–344. MR 51 #6760

69. P. Nyikos and H. C. Reichel, *Uniforme Räume mit einer linear geordneten Basis*, Monatsh. Math. **79** (1975), 123–130. MR 51 #6745 (German, with English summary)

70. Peter J. Nyikos, *Some surprising base properties in topology*, Studies in Topology (Proc. Conf., Univ. North Carolina, Charlotte, N.C., 1974; Dedicated to Math. Sect. Polish Acad. Sci.), Academic Press, New York, 1975, pp. 427–450. MR 51 #4182

71. P. Nyikos and H. C. Reichel, *On the structure of zerodimensional spaces*, Nederl. Akad. Wetensch. Proc. Ser. A **78**=Indag. Math. **37** (1975), 120–136. MR 51 #1779

72. P. Nyikos, *The p-adic topologies and their generalizations*, Topics in Topology (Proc. Colloq., Keszthely, 1972), North-Holland, Amsterdam, 1974, pp. 517–525. Colloq. Math. Soc. János Bolyai, Vol. 8. MR 50 #13320

73. Peter Nyikos, *The p-adic topology on abelian groups*, TOPO 72—General Topology and Its Applications (Proc. Second Pittsburgh Internat. Conf., Pittsburgh, Pa., 1972; Dedicated to the Memory of Johannes H. de Groot), Springer, Berlin, 1974, pp. 354–367. Lecture Notes in Math., Vol. 378. MR 50 #13319

74. _____, *Prabir Roy's space Δ is not N-compact*, General Topology and Appl. **3** (1973), 197–210. MR 48 #3007

75. _____, *The Sorgenfrey plane in dimension theory*, Fund. Math. **79** (1973), 131–139. MR 48 #1192

76. Peter Nyikos and Juan J. Schäffer, *Flat spaces of continuous functions*, Studia Math. **42** (1972), 221–229. MR 46 #7875

77. Peter Nyikos, *Not every 0-dimensional realcompact space is N-compact*, Bull. Amer. Math. Soc. **77** (1971), 392–396. MR 43 #8048

78. _____, *The structures of locally compact T_5 spaces under strong axioms*, Proceedings of the 1998 Topology and Dynamics Conference (Fairfax, VA), vol. 23, 1998, pp. 349–356. 1 743 819

79. Peter J. Nyikos, *Sequential properties of 2^{ω_1} under various axioms*, Baku International Topological Conference (Russian) (Baku, 1987), "Èlm", Baku, 1989, pp. 314–322. 1 347 239

80. Nina Frank, Franklin D. Tall, Ralph Kopperman, Peter Nyikos, and Mary Ellen Rudin, *Reminiscences of Boris Shapirovskiĭ*, Papers on General Topology and Applications (Madison, WI, 1991), Ann. New York Acad. Sci., vol. 704, New York Acad. Sci., New York, 1993, pp. xiii–xxi. 1 277 836

81. Peter J. Nyikos, Boris Shapirovskiĭ, Zoltán Szentmiklóssy, and Boban Veličković, *Complete normality and countable compactness*, Topology Proc. **17** (1992), 395–403. 1 255 822

82. Peter J. Nyikos, *Convergence in topology*, Recent Progress in General Topology (Prague, 1991), North-Holland, Amsterdam, 1992, pp. 537–570. 1 229 138

83. Peter Nyikos, *On first countable, countably compact spaces. III. The problem of obtaining separable noncompact examples*, Open Problems in Topology, North-Holland, Amsterdam, 1990, pp. 127–161. 1 078 644

Konstantin I. Oskolkov

Graduate Education: Steklov Mathematical Institute of the Academy of Sciences of the USSR
Ph.D. December 1972 in Mathematics; Thesis Advisor: Serguei Telyakovskii
Habilitation Thesis (Degree of Dr.Hab.) December 1978 in Mathematics

Undergraduate Education: Moscow University of Physics and Technology ("Fiz-Tekh"), Dolgoprudnyi, District Moscow
B.S. July 1969 in Applied Mathematics with Honors ("Red Diploma")

Professional Employment

Permanent Positions

1993–present	Professor	University of South Carolina, Columbia, SC
1994–95	Graduate Director	University of South Carolina, Columbia, SC
1973–91	Leading Research Fellow	Steklov Mathematical Institute, Moscow, Russia
1969–73	Junior Research Fellow	Steklov Mathematical Institute, Moscow, Russia
1973–91	Professor	Moscow State University, Moscow, Russia

Visiting Positions

1991–1993	Visiting Professor	Queen's University, Kingston, Ont., Canada
1992(Winter)	Visiting Research Fellow	Tel Aviv University, Tel Aviv, Israel
1992 (Summer)	Visiting Professor	Witwatersrand University, Johannesburg, South Africa
1990 (Spring)	Visiting Research Fellow	Princeton University, Princeton, NJ
1990 (Spring)	Visiting Research Fellow	University of Wisconsin, Madison, Wisconsin
1990 (Spring)	Visiting Research Fellow	University of Alberta, Edmonton, Alberta, Canada
1989 (Spring)	Visiting Research Fellow	University of Alberta, Edmonton, Alberta, Canada
1988 (Winter)	Visiting Professor	Bulgarian Academy, Sofia, Bulgaria
1988 (Fall)	Visiting Research Fellow	Math. Inst. Ac. Sci. GDR, Berlin, East Germany
1986 (Fall)	Invited Lecturer	S. Banach International Center, Warsaw, Poland
1985 (Spring)	Visiting Professor	Bulgarian Academy, Sofia, Bulgaria
1979 (Fall)	Visiting Research Fellow	University of California in Los Angeles, CA
1977 (Fall)	Visiting Research Fellow	F. Schiller University, Jena, East Germany
1975 (Fall)	Visiting Research Fellow	S. Banach International Center, Warsaw, Poland
1970 (Fall)	Visiting Research Fellow	Mathematical Inst. Hungarian Ac. Sci, Budapest, Hungary

Awards and Honors

1990	Outstanding Publication Award, Soviet Academy of Sciences
1988,82,78	Outstanding Publication Award, Steklov Mathematical Institute
1986, 84,77, 75,72,70	Outstanding Publication Award, Department of Real Analysis, Steklov Mathematical Institute

Publications: 50 (2 volumes edited, 2 books translated, 45 articles in print or in press; 1 submitted).

Invited Addresses And Seminars: 75 in different institutions and various countries.

Doctoral Students: 9 (6 completed and 1 in progress).

Grant Support, as Principal Investigator: 2002: NSF Grant applied for (pending); 1997 - 2001: NSF Grant, 1991: NSERC Grant (Canada).

Conference Organizing or Program Committees: 5 international conferences.

Editing, Refereeing, and Reviewing: Deputy Editor-in-Chief, *Analysis Mathematica*; member of the Editorial Board *East Journal on Approximations*; Co-Editor of 6 issues of *Proceedings of Steklov Mathematical Institute*; reviewer for 11 professional journals.

The Publications of Konstantin Oskolkov

Books Translated or Edited

1. B. Sendov and V. Popov, *Usrednennye moduli gladkosti*, "Mir", Moscow, 1988, ISBN 5-03-000438-6, Translated from the Bulgarian and with a preface by Yu. A. Kuznetsov and K. I. Oskolkov. MR 90e:41001 (Russian)
2. A. Brënsted, *Vvedenie v teoriyu vypuklykh mnogogrannikov*, "Mir", Moscow, 1988, ISBN 5-03-001115-3, Translated from the English by K. I. Oskolkov; Translation edited and with a preface by B. S. Kashin. MR 89h:52006 (Russian)
3. **I. M. Vinogradov and A. A. Karacuba and K. I. Oskolkov and A. N. Paršin (eds.),** *Trudy mezhdunarodnoi konferentsii po teorii chisel (Moskva, 14–18 sentyabrya 1971 g.)*, Izdat. "Nauka", Moscow, 1973, With an introductory address by M. V. Keldyš; Trudy Mat. Inst. Steklov. **132** (1973). MR 48 #213 (Russian)

Articles

4. K. I. Oskolkov, *On representations of algebraic pulynomials by superpositions of plane waves*, Serdica (submitted), This issue of the Serdica is dedicated to the memory of Vasil Popov.
5. V. E. Maiorov, K. I. Oskolkov, and V. N. Temlyakov, *Gridge approximation and Radon compass*, Approximation Theory: a Volume Dedicated to Blagovest Sendov (B. . Bojanov, ed.), DARBA, Sofia, 2002, pp. 284–309.
6. K. I. Oskolkov, *Linear and nonlinear methods for ridge approximation*, Metric theory of functions and related problems in analysis (Russian), Izd. Nauchno-Issled. Aktuarno-Finans. Tsentra (AFTs), Moscow, 1999, pp. 165–195. MR 2001i:41039 (Russian, with Russian summary)
7. ———, *Ridge approximations and the Kolmogorov-Nikol′skiĭ problem*, Dokl. Akad. Nauk **368** (1999), 445–448. MR 2001b:41024 (Russian)
8. K. Oskolkov, *Schrödinger equation and oscillatory Hilbert transforms of second degree*, J. Fourier Anal. Appl. **4** (1998), 341–356. MR 99j:42004
9. K. I. Oskolkov, *Ridge approximation, Fourier-Chebyshev analysis, and optimal quadrature formulas*, Tr. Mat. Inst. Steklova **219** (1997), 269–285. MR 99j:41036 (Russian)
10. Ronald A. DeVore, Konstantin I. Oskolkov, and Pencho P. Petrushev, *Approximation by feed-forward neural networks*, Ann. Numer. Math. **4** (1997), 261–287, The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. MR 97i:41043
11. K. I. Oskolkov, *A class of I. M. Vinogradov's series and its applications in harmonic analysis*, Progress in Approximation Theory (Tampa, FL, 1990), Springer Ser. Comput. Math., vol. 19, Springer, New York, 1992, pp. 353–402. MR 94m:42016
12. D. Offin and K. Oskolkov, *A note on orthonormal polynomial bases and wavelets*, Constr. Approx. **9** (1993), 319–325. MR 94f:42047
13. K. I. Oskolkov, *I. M. Vinogradov series in the Cauchy problem for Schrödinger-type equations*, Trudy Mat. Inst. Steklov. **200** (1991), 265–288. MR 93b:11104 (Russian)
14. ———, *On functional properties of incomplete Gaussian sums*, Canad. J. Math. **43** (1991), 182–212. MR 92e:11083
15. ———, *I. M. Vinogradov series and integrals and their applications*, Trudy Mat. Inst. Steklov. **190** (1989), 186–221, Translated in Proc. Steklov Inst. Math. **1992**, no. 1, 193–229; Theory of functions (Russian) (Amberd, 1987). MR 90g:11112 (Russian)
16. ———, *Continuous functions with polynomial spectra*, Investigations in the theory of the approximation of functions (Russian), Akad. Nauk SSSR Bashkir. Filial Otdel Fiz. Mat., Ufa, 1987, pp. 187–200. MR 90b:42013 (Russian)
17. ———, *Properties of a class of I. M. Vinogradov series*, Dokl. Akad. Nauk SSSR **300** (1988), 803–807. MR 89f:11117 (Russian)
18. G. I. Arkhipov and K. I. Oskolkov, *A special trigonometric series and its applications*, Mat. Sb. (N.S.) **134(176)** (1987), 147–157, 287. MR 89a:42010 (Russian)
19. K. I. Oskolkov, *Inequalities of the "large sieve" type and applications to problems of trigonometric approximation*, Anal. Math. **12** (1986), 143–166. MR 88i:42004 (English, with Russian summary)
20. ———, *Spectra of uniform convergence*, Dokl. Akad. Nauk SSSR **288** (1986), 54–58. MR 88e:42012 (Russian)
21. ———, *A subsequence of Fourier sums of integrable functions*, Trudy Mat. Inst. Steklov. **167** (1985), 239–260, 278, Current problems in mathematics. Mathematical analysis, algebra, topology. MR 87i:42008 (Russian)

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22. _____, *Strong summability of Fourier series*, Trudy Mat. Inst. Steklov. **172** (1985), 280–290, 355, Studies in the theory of functions of several real variables and the approximation of functions. MR 87a:42021 (Russian)

23. _____, *Luzin's C-property for a conjugate function*, Trudy Mat. Inst. Steklov. **164** (1983), 124–135, Orthogonal series and approximations of functions. MR 86e:42019 (Russian)

24. _____, *On exponential polynomials of the least L^p-norm*, Constructive Function Theory '81 (Varna, 1981), Publ. House Bulgar. Acad. Sci., Sofia, 1983, pp. 464–467. MR 85a:41022

25. _____, *On optimal quadrature formulae on certain classes of periodic functions*, Appl. Math. Optim. **8** (1982), 245–263. MR 83h:41032

26. _____, *Partial sums of the Taylor series of a bounded analytic function*, Trudy Mat. Inst. Steklov. **157** (1981), 153–160, 236, Number theory, mathematical analysis and their applications. MR 83c:30004 (Russian)

27. _____, *The upper bound of the norms of orthogonal projections onto subspaces of polygonals*, Approximation Theory (Papers, VIth Semester, Stefan Banach Internat. Math. Center, Warsaw, 1975), Banach Center Publ., vol. 4, PWN, Warsaw, 1979, pp. 177–183. MR 82e:41013

28. _____, *Approximate properties of classes of periodic functions*, Mat. Zametki **27** (1980), 651–666, 671. MR 81j:42011 (Russian)

29. _____, *Polygonal approximation of functions of two variables*, Mat. Sb. (N.S.) **107(149)** (1978), 601–612, 639. MR 81j:41020 (Russian)

30. _____, *Lebesgue's inequality in the mean*, Mat. Zametki **25** (1979), 551–555, 636. MR 81c:42005 (Russian)

31. _____, *Optimality of a quadrature formula with equidistant nodes on classes of periodic functions*, Dokl. Akad. Nauk SSSR **249** (1979), 49–52. MR 81b:41077 (Russian)

32. _____, *Quantitative estimates of N. N. Luzin's C-property for classes of integrable functions*, Approximation Theory (Papers, VIth Semester, Stefan Banach Internat. Math. Center, Warsaw, 1975), Banach Center Publ., vol. 4, PWN, Warsaw, 1979, pp. 185–196. MR 81a:26003

33. _____, *Sequences of norms of Fourier sums of bounded functions*, Trudy Mat. Inst. Steklov. **143** (1977), 129–142, 210, Analytic number theory, mathematical analysis and their applications (dedicated to I. M. Vinogradov on his 85th birthday). MR 58 #12159 (Russian)

34. _____, *Approximation properties of integrable functions on sets of full measure*, Mat. Sb. (N.S.) **103(145)** (1977), 563–589, 631. MR 57 #13343 (Russian)

35. _____, *The uniform modulus of continuity of summable functions on sets of positive measure*, Dokl. Akad. Nauk SSSR **229** (1976), 304–306. MR 57 #9917 (Russian)

36. _____, *Lebesgue's inequality in the uniform metric and on a set of full measure*, Mat. Zametki **18** (1975), 515–526. MR 54 #833 (Russian)

37. _____, *On strong summability of Fourier series and differentiability of functions*, Anal. Math. **2** (1976), 41–47. MR 53 #6210 (English, with Russian summary)

38. _____, *An estimate for the approximation of continuous functions by sequences of Fourier sums*, Trudy Mat. Inst. Steklov. **134** (1975), 240–253, 410, Theory of functions and its applications (collection of articles dedicated to Sergeĭ Mihaĭlovič Nikol'skiĭ on the occasion of his seventieth birthday). MR 53 #6203 (Russian)

39. _____, *Estimation of the rate of approximation of a continuous function and its conjugate by Fourier sums on a set of full measure*, Izv. Akad. Nauk SSSR Ser. Mat. **38** (1974), 1393–1407. MR 50 #10663 (Russian)

40. _____, *Fourier sums for the Banach indicatrix*, Mat. Zametki **15** (1974), 527–532. MR 50 #10177 (Russian)

41. _____, *The sharpness of the Lebesgue estimate for the approximation of functions with prescribed modulus of continuity by Fourier sums*, Trudy Mat. Inst. Steklov. **112** (1971), 337–345, 389, Collection of articles dedicated to Academician Ivan Matveevič Vinogradov on his eightieth birthday, I. MR 49 #970 (Russian)

42. _____, *Subsequences of Fourier sums of functions with a prescribed modulus of continuity*, Mat. Sb. (N.S.) **88(130)** (1972), 447–469. MR 48 #11874 (Russian)

43. _____, *Generalized variation, the Banach indicatrix and the uniform convergence of Fourier series*, Mat. Zametki **12** (1972), 313–324. MR 47 #5507 (Russian)

44. K. I. Oskolkov and S. A. Teljakovskiĭ, *On the estimates of P. L. Ul'janov for integral moduli of continuity*, Izv. Akad. Nauk Armjan. SSR Ser. Mat. **6** (1971), 406–411. MR 45 #8782 (Russian)

45. K. I. Oskolkov, *The norm of a certain polynomial operator*, Sibirsk. Mat. Ž. **12** (1971), 1151–1157. MR 45 #4021 (Russian)

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46. K. I. Oskolkov, S. B. Stečkin, and S. A. Teljakovskiĭ, *Petr Vasil′evič Galkin*, Mat. Zametki **10** (1971), 597–600. MR 44 #6436 (Russian)

47. K. I. Oskolkov, *Convergence of a trigonometric series to a function of bounded variation*, Mat. Zametki **8** (1970), 47–58. MR 43 #5238 (Russian)

48. A. Andreev, V. I. Berdyshev, B. Bojanov, B. S. Kashin, S. V. Konyagin, S. M. Nikol′skii, K. I. Oskolkov, P. Petrushev, Bl. Sendov, S. A. Telyakovskii, and V. N. Temlyakov, *In memory of Sergei Borisovich Stechkin [1920–1995]*, East J. Approx. **2** (1996), 131–133. 1 407 059

49. K. Tandori, *Systems of signs*, Uspekhi Mat. Nauk **40** (1985), 105–108, Translated from the German by K. I. Oskolkov; International conference on current problems in algebra and analysis (Moscow-Leningrad, 1984). 807 790 (Russian)

50. Z. Chisel′skiĭ, *Approximation by algebraic polynomials on simplexes*, Uspekhi Mat. Nauk **40** (1985), 212–214, Translated from the English by K. I. Oskolkov. 807 760 (Russian)

Pencho Petrushev

Graduate Education: Sofia University, Bulgaria
Doc. of Sci. in Mathematics (Second Doctoral Degree) 1983
Ph. D. 1977 in Mathematics; Thesis Advisor: Vasil A. Popov

Undergraduate Education: Sofia University, Bulgaria
B. S. June 1972 in Mathematics

Professional Employment
Permanent Positions

1996 – present	Professor	University of South Carolina, Columbia, SC
1986 – 1996	Professor	Institute of Mathematics, Bulg. Acad. of Sciences
1982 – 1986	Senior Scientist	Institute of Mathematics, Bulg. Acad. of Sciences
1977 – 1982	Scientist	Institute of Mathematics, Bulg. Acad. of Sciences

Awards and Honors

1986 Bulgarian National Mathematics Award "N. Obreshkov".

Publications: 57 (1 book, 54 articles in print or in press, and 2 submitted)

Invited Addresses and External Colloquia/Seminars: 57 at 24 different institutions in 10 countries.

Doctoral Students: 5 completed (1 at USC) and 1 in progress.

Master Students: 12 completed (1 at USC).

Grant Support: ONR-ARO: 1997–2000; ONR-DEPSCoR N00014-00-1-0470: 2000–2003; NSF DMS-0200665: 2002–2005.

Conference Organizing or Program Committees: 7 international conferences.

Editing, Refereeing, and Reviewing: Member, Editorial Board of Approximation Theory and its Applications; Member, Editorial Board of East Journal on Approximations; Referee for 11 professional journals.

Service on Professional Panels: Vasil A. Popov Prize Selection Committee, 1994 – present.

The Publications of Pencho Petrushev

Books Authored or Edited

1. **Blagovest Sendov and Pencho Petrushev and Kamen Ivanov and Rumen Maleev (eds.),** *Constructive theory of functions*, Proceedings of the International Conference Held in Varna, May 24–31, 1987, Publishing House of the Bulgarian Academy of Sciences, Sofia, 1988. MR 90a:41001
2. P. P. Petrushev and V. A. Popov, *Rational approximation of real functions*, Encyclopedia of Mathematics and its Applications, vol. 28, Cambridge University Press, Cambridge, 1987, ISBN 0-521-33107-2. MR 89i:41022

Articles

3. G. Kyriazis and P. Petrushev, *New bases for Triebel-Lizorkin and Besov spaces*, Trans. Amer. Math. Soc. **354** (2002), 749–776 (electronic). MR 2002k:46082
4. Pencho Petrushev, *Bases consisting of rational functions of uniformly bounded degrees or more general functions*, J. Funct. Anal. **174** (2000), 18–75. MR 2001k:46016
5. Albert Cohen, Ronald DeVore, Pencho Petrushev, and Hong Xu, *Nonlinear approximation and the space* $\mathrm{BV}(\mathbf{R}^2)$, Amer. J. Math. **121** (1999), 587–628. MR 2000j:41024
6. Pencho P. Petrushev, *Approximation by ridge functions and neural networks*, SIAM J. Math. Anal. **30** (1999), 155–189 (electronic). MR 99g:41031
7. Ronald A. DeVore, Konstantin I. Oskolkov, and Pencho P. Petrushev, *Approximation by feed-forward neural networks*, Ann. Numer. Math. **4** (1997), 261–287, The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. MR 97i:41043
8. E. Moskona, P. Petrushev, and E. B. Saff, *The Gibbs phenomenon for best* L_1*-trigonometric polynomial approximation*, Constr. Approx. **11** (1995), 391–416. MR 96f:42004
9. R. A. Devor, P. P. Petrushev, and V. N. Temlyakov, *Multidimensional approximations by trigonometric polynomials with harmonics of a hyperbolic cross*, Mat. Zametki **56** (1994), 36–63, 158. MR 96b:42001 (Russian, with Russian summary)
10. P. Binev, P. Petrushev, E. B. Saff, and O. Trifonov, *Distribution of interpolation points of best* L_2*-approximants (*n*th partial sums of Fourier series)*, Constr. Approx. **9** (1993), 445–472. MR 94g:42001
11. R. A. DeVore, P. Petrushev, and X. M. Yu, *Nonlinear wavelet approximation in the space* $C(\mathbf{R}^d)$, Progress in Approximation Theory (Tampa, FL, 1990), Springer Ser. Comput. Math., vol. 19, Springer, New York, 1992, pp. 261–283. MR 94h:41070
12. E. S. Moskona and P. P. Petrushev, *Uniform rational approximation of functions with first derivative in the real Hardy space* $\mathrm{Re}\, H^1$, Constr. Approx. **7** (1991), 69–103. MR 92a:41010
13. ———, *Characterization of the rational approximation in uniform metrics*, C. R. Acad. Bulgare Sci. **42** (1989), 37–40. MR 90c:41029
14. Pencho P. Petrushev, *Relations between rational and spline approximations in* L_p *metric*, J. Approx. Theory **50** (1987), 141–159. MR 89e:41021
15. ———, *Direct and converse theorems for spline and rational approximation and Besov spaces*, Function Spaces and Applications (Lund, 1986), Lecture Notes in Math., vol. 1302, Springer, Berlin, 1988, pp. 363–377. MR 89d:41027
16. P. P. Petrushev and S. L. Troyanski, *On the Banach-Mazur theorem on the universality of* $C[0,1]$, C. R. Acad. Bulgare Sci. **37** (1984), 283–285. MR 86a:47017 (Russian)
17. P. Petrushev, *Relations between rational and spline approximations*, Acta Math. Hungar. **44** (1984), 61–83. MR 85h:41070
18. Pencho P. Petrushev, *Relations between best rational and spline approximations in the* L_p *metric*, Pliska Stud. Math. Bulgar. **5** (1983), 68–83. MR 85c:41024 (Russian)
19. P. P. Petrushev, *Some new characteristics in the theory of rational approximations*, Constructive function theory '81 (Varna, 1981), Bulgar. Acad. Sci., Sofia, 1983, pp. 121–124. MR 84m:41025 (Russian)
20. V. Kh. Khristov and P. P. Petrushev, *On Tauberian theorems for power series and their application to Fourier series*, Approximation and Function Spaces (Gdańsk, 1979), North-Holland, Amsterdam, 1981, pp. 317–329. MR 83c:40001
21. P. P. Petrushev, *Rational approximation of functions of class* V_r, C. R. Acad. Bulgare Sci. **33** (1980), 1607–1610. MR 83b:41019 (Russian)

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22. _____, *Rational and piecewise polynomial approximations*, C. R. Acad. Bulgare Sci. **34** (1981), 7–10. MR 83a:41017 (Russian)

23. Penčo P. Petrušev, *Rational approximations of functions with bounded variation in the Hausdorff and integral metric*, Serdica **6** (1980), 202–210. MR 82i:41019 (Russian)

24. _____, *Lower bounds for best rational approximations in the Hausdorff metric*, Serdica **6** (1980), 120–127. MR 82g:41015 (Russian)

25. _____, *Best rational approximations in the Hausdorff metric*, Serdica **6** (1980), 29–41. MR 81f:41017 (Russian)

26. P. P. Petrušev, *Uniform rational approximations of functions of class V_r*, C. R. Acad. Bulgare Sci. **31** (1978), 1535–1538. MR 81d:41019 (Russian)

27. P. P. Petrushev and Sp. Tashev, *Converse theorems in Hausdorff's metric*, Fourier Analysis and Approximation Theory (Proc. Colloq., Budapest, 1976), Vol. II, Colloq. Math. Soc. János Bolyai, vol. 19, North-Holland, Amsterdam, 1978, pp. 625–631. MR 81c:41035

28. P. P. Petrušev and V. H. Hristov, *Generalization of the Dini-Lipschitz test for uniform convergence of Fourier series*, Mat. Zametki **25** (1979), 557–568, 636. MR 81b:42023 (Russian)

29. P. P. Petrušev, *Uniform rational approximations of functions of the class V_r*, Mat. Sb. (N.S.) **108(150)** (1979), 418–432, 478. MR 81b:41039 (Russian)

30. P. P. Petrushev, *The exact order of the best uniform rational approximation of some functional classes*, Fourier Analysis and Approximation Theory (Proc. Colloq., Budapest, 1976), Vol. II, Colloq. Math. Soc. János Bolyai, vol. 19, North-Holland, Amsterdam, 1978, pp. 603–624. MR 81b:41038

31. P. P. Petrušev, *Rational approximation of functions*, The theory of the approximation of functions (Proc. Internat. Conf., Kaluga, 1975) (Russian), "Nauka", Moscow, 1977, pp. 277–279. MR 81b:41037 (Russian)

32. V. Ch. Christov and P. P. Petrushev, *An improvement of Dini-Lipschitz condition*, Fourier Analysis and Approximation Theory (Proc. Colloq., Budapest, 1976), Vol. I, Colloq. Math. Soc. János Bolyai, vol. 19, North-Holland, Amsterdam, 1978, pp. 255–264. MR 80j:42013

33. Blagovest H. Sendov, Spas P. Tašev, and Penčo P. Petrušev, *Characterization of S-derivatives of Lipschitzian functions*, Serdica **4** (1978), 260–266. MR 80i:26008 (Russian)

34. V. H. Hristov and P. P. Petrušev, *Sufficient conditions for convergence of Fourier series*, The theory of the approximation of functions (Proc. Internat. Conf., Kaluga, 1975) (Russian), "Nauka", Moscow, 1977, pp. 392–396. MR 80h:42002 (Russian)

35. Vladimir H. Hristov and Penčo P. Petrušev, *Convergence of a Fourier series in a Banach space*, PLISKA Studia Math. Bulgar. **1** (1977), 37–48. MR 58 #6881 (Russian)

36. V. H. Hristov and P. P. Petrušev, *On convergence of Fourier series in Banach space*, C. R. Acad. Bulgare Sci. **29** (1976), 1099–1102. MR 58 #6864

37. Penčo P. Petrušev, *Uniform rational approximations of functions of bounded variation*, PLISKA Studia Math. Bulgar. **1** (1977), 145–155. MR 58 #6836 (Russian)

38. P. P. Petrušev, *Rational approximations in the Hausdorff metric*, C. R. Acad. Bulgare Sci. **31** (1978), 155–158. MR 58 #6835 (Russian)

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40. V. A. Popov and P. P. Petrušev, *The exact order of the best uniform approximation of convex functions by rational functions*, Mat. Sb. (N.S.) **103(145)** (1977), 284–292, 319. MR 56 #6229 (Russian)

41. P. Petrušev and Sp. Tašev, *Some inverse theorems in the Hausdorff metric*, C. R. Acad. Bulgare Sci. **29** (1976), 1721–1724. MR 56 #6228 (Russian)

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43. Penčo P. Petrušev, *On rational approximation of functions with unbounded variation*, Serdica **2** (1976), 149–153. MR 55 #942

44. P. P. Petrušev, *Rational approximation of functions*, C. R. Acad. Bulgare Sci. **29** (1976), 1405–1408. MR 55 #941 (Russian)

45. _____, *The rational approximation of functions with a convex derivative*, C. R. Acad. Bulgare Sci. **29** (1976), 1249–1252. MR 55 #940 (Russian)

46. P. P. Petrušev and V. H. Hristov, *Approximation by Müntz polynomials in the Hausdorff metric*, C. R. Acad. Bulgare Sci. **29** (1976), 955–958. MR 55 #934 (Russian)

47. P. P. Petrushev, *On the rational approximation of functions with convex r-th derivative*, Acta Math. Acad. Sci. Hungar. **28** (1976), 315–320. MR 54 #13403

48. P. Petrushev, *Nonlinear approximation from dictionaries: some open problems: research problems 2001-1*, Constr. Approx. **17** (2001), 153–155. 1 794 807

49. A. Andreev, V. I. Berdyshev, B. Bojanov, B. S. Kashin, S. V. Konyagin, S. M. Nikol′skii, K. I. Oskolkov, P. Petrushev, Bl. Sendov, S. A. Telyakovskii, and V. N. Temlyakov, *In memory of Sergei Borisovich Stechkin [1920–1995]*, East J. Approx. **2** (1996), 131–133. 1 407 059

50. P. P. Petrushev, *Direct and converse theorems for spline approximation and Besov spaces*, C. R. Acad. Bulgare Sci. **39** (1986), 25–28. 851 639

James W. Roberts

Graduate Education: Rutgers-The State University
Ph.D. 1970 in Mathematics; Thesis Advisor: Solomon Leader
M.S. 1967 in Mathematics; Thesis Advisor: Benjamin Muckenhoupt

Undergraduate Education: University of Maryland
B.S. 1965 in Mathematics

Professional Employment

Permanent Positions

1983–present	Professor	University of South Carolina, Columbia, SC
1976–1983	Associate Professor	University of South Carolina, Columbia, SC
1970–1976	Assitant Professor	University of South Carolina, Columbia, SC

Visiting Positions

2001–2002	Visiting Professor	University of Missouri, Columbia, MO
1979–1980	Visiting Associate Professor	University of Missouri, Columbia, MO
Spring 1977	Visiting Associate Professor	University of North Carolina, Chapel Hill, NC

Honors and Awards

1998	Michael J. Mungo Teaching Award
1997, 1996	AMOCO Teaching Award Finalist
1993–1994	Senior Lilly Fellow
1991	South Carolina College Teaching Award in the Sciences
1979	Russell Award for Research in the Sciences and Engineering

Publications: 24 (1 co-authored book, 22 articles in print or in press, 1 article submitted.)

Invited Addresses and Colloquia: 17 at 12 venues in 2 countries.

Grant Support: NSF reasearch grants 1979–1985.

Doctoral Students: 7 completed.

Masters Students: 7 completed.

Refereeing and Reviewing: Referee for several mathematical journals and proposal reviewer for NSF.

The Publications of James Roberts

Monograph

1. N. J. Kalton, N. T. Peck, and James W. Roberts, *An F-space sampler*, London Mathematical Society Lecture Note Series, vol. 89, Cambridge University Press, Cambridge, 1984, ISBN 0-521-27585-7. MR 87c:46002

Articles

2. Stephen J. Dilworth, Ralph E. Howard, and James W. Roberts, *A general theory of almost convex functions* (submitted).
3. _____, *Extremal approximately convex functions and the best constraints in a theorem of Hyers and Ulam*, Adv. Math. (to appear).
4. James W. Roberts, *Every locally bounded space with trivial dual is the quotient of a rigid space*, Illinois J. Math. **45** (2001), 1119–1144. 1 894 889
5. S. J. Dilworth, Ralph Howard, and James W. Roberts, *On the size of approximately convex sets in normed spaces*, Studia Math. **140** (2000), 213–241. MR 2001h:46010
6. _____, *Extremal approximately convex functions and estimating the size of convex hulls*, Adv. Math. **148** (1999), 1–43. MR 2001c:26015
7. James W. Roberts, *Maharam's Problem*, Proceedings of the Orlicz Memorial Conference, University of Mississippi, 1991, pp. 1–33.
8. Lech Drewnowski and James W. Roberts, *On the primariness of the Banach space l_∞/C_0*, Proc. Amer. Math. Soc. **112** (1991), 949–957. MR 91j:46018
9. James W. Roberts, *Cyclic inner functions in the Bergman spaces and weak outer functions in H^p, $0 < p < 1$*, Illinois J. Math. **29** (1985), 25–38. MR 86c:30069
10. N. J. Kalton and James W. Roberts, *Uniformly exhaustive submeasures and nearly additive set functions*, Trans. Amer. Math. Soc. **278** (1983), 803–816. MR 85f:28006
11. _____, *Pathological linear spaces and submeasures*, Math. Ann. **262** (1983), 125–132. MR 84d:28018
12. N. J. Kalton, N. T. Peck, and James W. Roberts, *L_0-valued vector measures are bounded*, Proc. Amer. Math. Soc. **85** (1982), 575–582. MR 83h:46061
13. N. J. Kalton and James W. Roberts, *A rigid subspace of L_0*, Trans. Amer. Math. Soc. **266** (1981), 645–654. MR 82j:46039
14. J. A. Cima and James W. Roberts, *Denting in $\mathbf{B}_p$*, Pacific J. Math. **78** (1978), 41–45.
15. James W. Roberts, *A nonlocally convex F-space with the Hahn-Banach approximation property*, Banach Spaces of Analytic Functions (Proc. Pelczynski Conf., Kent State Univ., Kent, Ohio, 1976), Springer, Berlin, 1977, pp. 76–81. Lecture Notes in Math., Vol. 604. MR 58 #30008
16. _____, *A compact convex set with no extreme points*, Studia Math. **60** (1977), 255–266. MR 57 #10595
17. _____, *The embedding of compact convex sets in locally convex spaces*, Canad. J. Math. **30** (1978), 449–454. MR 57 #10409
18. _____, *Pathological compact convex sets in the spaces $L^p([0,1]), 0 \leq p < 1$*, The Altgold Book, 1976, Chapter X.
19. James W. Roberts and Manfred Stoll, *Composition operators on F^+*, Studia Math. **57** (1976), 217–228. MR 55 #8773
20. _____, *Prime and principal ideals in the algebra N^+*, Arch. Math. (Basel) **27** (1976), 387–393, Corrections: (Arch. Math. (Basel) **30** (1978), 672). MR 54 #10625
21. James W. Roberts, *Pointwise finite families of mappings*, Canad. Math. Bull. **18** (1975), 767–768. MR 54 #3670
22. _____, *The component of the origin in the Nevanlinna class*, Illinois J. Math. **19** (1975), 553–559. MR 52 #3554
23. _____, *Representing measures in compact groupoids*, Illinois J. Math. **19** (1975), 277–291. MR 51 #13643
24. _____, *Invariant measures in compact Hausdorff spaces*, Indiana Univ. Math. J. **24** (1974/75), 691–718. MR 50 #13453

November 15, 2002 James W. Roberts

Anton Schep

Graduate Education: University of Leiden, The Netherlands
Ph.D. 1977 in Mathematics; Thesis Advisor: A. Zaanen

Undergraduate Education: University of Leiden, The Netherlands
B.Sc. 1974

Professional Employment

Permanent Positions

1990–present	Professor	University of South Carolina, Columbia, SC
1995–present	Graduate Director	University of South Carolina, Columbia, SC
1989–1994	Graduate Director	University of South Carolina, Columbia, SC
1984–1990	Associate Professor	University of South Carolina, Columbia, SC
1981–1984	Assistant Professor	University of South Carolina, Columbia, SC

Visiting Positions

Fall 1994	Visiting Professor	Delft University of Technology, Delft, The Netherlands
Summers 1987, 1984	Visiting Research Fellow	Flinders University, Bedford Park, Australia

Postdoctoral Position

1977–1981	Research Instructor	California Institute of Technology, Pasadena,CA

Fellowships and Honors

1995–present	Corresponding Member, Royal Dutch Academy of Sciences
1987–1988	Alexander von Humboldt Research Fellow, University of Tübingen, Germany

Publications: 31 refereed articles in print or in press.

Conference and Seminar Talks: Over 24 invited or contributed talks at national and international meetings, and over 20 seminar or colloqium talks at other institutions.

Doctoral Students: 1 completed.

Masters Students: 3 completed.

Conference Organizing or Program Committees: Organizer of a Special Session for the American Mathematical Society.

Refereeing and Reviewing: Referee for 11 professional journals; proposal reviewer for 2 funding agencies; reviewer for Mathematical Reviews; nine book reviews in Nieuw Archief voor Wiskunde.

The Publications of Anton Schep

1. Anton R. Schep, *Daugavet type inequalities for operators on L^p-spaces*, Positivity (To appear).
2. _____, *And still one more proof of the Radon-Nikodym theorem*, Amer. Math. Monthly (To appear).
3. B. de Pagter and A. R. Schep, *Band decompositions for disjointness preserving operators*, Positivity **4** (2000), 259–288, Positivity and its applications (Ankara, 1998). MR 2001m:47084
4. Ben de Pagter and Anton R. Schep, *Diagonals of positive semigroups*, Integral Equations Operator Theory **27** (1997), 446–472. MR 98d:47080
5. W. A. J. Luxemburg, B. de Pagter, and A. R. Schep, *Diagonals of the powers of an operator on a Banach lattice*, Operator Theory in Function Spaces and Banach Lattices, Oper. Theory Adv. Appl., vol. 75, Birkhäuser, Basel, 1995, pp. 223–273. MR 97i:47076
6. B. de Pagter and A. R. Schep, *Positive definite diagonal sequences*, Acta Univ. Carolin. Math. Phys. **36** (1995), 73–83, 23rd Winter School on Abstract Analysis (Lhota nad Rohanovem, 1995; Poděbrady, 1995). MR 97f:46032
7. Anton R. Schep, *Minkowski's integral inequality for function norms*, Operator Theory in Function Spaces and Banach Lattices, Oper. Theory Adv. Appl., vol. 75, Birkhäuser, Basel, 1995, pp. 299–308. MR 95m:46038
8. J. M. A. M. van Neerven, B. de Pagter, and A. R. Schep, *Weak measurability of the orbits of an adjoint semigroup*, Evolution Equations (Baton Rouge, LA, 1992), Lecture Notes in Pure and Appl. Math., vol. 168, Dekker, New York, 1995, pp. 327–336. MR 95h:47058
9. Anton R. Schep, *Krivine's theorem and the indices of a Banach lattice*, Acta Appl. Math. **27** (1992), 111–121, Positive operators and semigroups on Banach lattices (Curaçao, 1990). MR 93j:46025
10. A. R. Schep and M. Wolff, *Semicompact operators*, Indag. Math. (N.S.) **1** (1990), 115–125. MR 91j:47042
11. W. J. Ricker and A. R. Schep, *The nonemptiness of joint spectral subsets of Euclidean n-space*, J. Austral. Math. Soc. Ser. A **47** (1989), 300–306. MR 91g:47004
12. Anton R. Schep, *The measure of noncompactness of a disjointness preserving operator*, J. Operator Theory **21** (1989), 397–402. MR 90k:46044
13. _____, *A remark on the uniform zero-two law for positive contractions*, Arch. Math. (Basel) **53** (1989), 493–496. MR 90j:47046
14. Ralph Howard and Anton R. Schep, *Norms of positive operators on L^p-spaces*, Proc. Amer. Math. Soc. **109** (1990), 135–146. MR 90j:47031
15. A. R. Schep, *Composition and nuclearity of kernel operators*, Integral Equations Operator Theory **11** (1988), 437–454. MR 90b:47055
16. B. de Pagter and A. R. Schep, *Measures of noncompactness of operators in Banach lattices*, J. Funct. Anal. **78** (1988), 31–55. MR 89d:47079
17. G. J. H. M. Buskes, P. G. Dodds, B. de Pagter, and A. R. Schep, *Up-down theorems in the centre of $\mathcal{L}_b(E, F)$*, Nederl. Akad. Wetensch. Indag. Math. **48** (1986), 1–9. MR 87f:47052
18. Anton R. Schep, *Compact non-nuclear operators on Banach lattices*, Semesterbericht Funktionanal., Tübingen University, 1985, pp. 157–174, Sommersemester.
19. _____, *Compactness properties of Carleman and Hille-Tamarkin operators*, Canad. J. Math. **37** (1985), 921–933. MR 87e:47037
20. _____, *Weak Kato-inequalities and positive semigroups*, Math. Z. **190** (1985), 305–314. MR 86k:47040
21. A. R. Schep, *Factorization of positive multilinear maps*, Illinois J. Math. **28** (1984), 579–591. MR 86c:47051
22. Peter G. Dodds and Anton R. Schep, *Compact integral operators on Banach function spaces*, Math. Z. **180** (1982), 249–255. MR 84d:47039
23. A. R. Schep, *Integral operators*, From A to Z (Leiden, 1982), Math. Centre Tracts, vol. 149, Math. Centrum, Amsterdam, 1982, pp. 81–91. MR 83i:47044
24. _____, *Compactness properties of an operator which imply that it is an integral operator*, Trans. Amer. Math. Soc. **265** (1981), 111–119. MR 82i:47088
25. _____, *Positive diagonal and triangular operators*, J. Operator Theory **3** (1980), 165–178. MR 81g:47040
26. _____, *Generalized Carleman operators*, Nederl. Akad. Wetensch. Indag. Math. **42** (1980), 49–59. MR 81d:47023

November 15, 2002 Anton Schep

27. W. A. J. Luxemburg and A. R. Schep, *An extension theorem for Riesz homomorphisms*, Nederl. Akad. Wetensch. Indag. Math. **41** (1979), 145–154. MR 80i:47051

28. A. R. Schep, *Kernel operators*, Nederl. Akad. Wetensch. Indag. Math. **41** (1979), 39–53. MR 80f:47028

29. W. A. J. Luxemburg and A. R. Schep, *A Radon-Nikodým type theorem for positive operators and a dual*, Nederl. Akad. Wetensch. Indag. Math. **40** (1978), 357–375. MR 80a:47058

30. A. R. Schep, *Order continuous components of operators and measures*, Nederl. Akad. Wetensch. Proc. Ser. A **81**=Indag. Math. **40** (1978), 110–117. MR 57 #17378

31. Anton Roelof Schep, *Kernel operators*, Rijksuniversiteit te Leiden, Leiden, 1977, Dissertation, Rijksuniversiteit te Leiden, Leiden; With a Dutch summary. MR 55 #13279

Robert C. Sharpley

Graduate Education: University of Texas
Ph.D. 1972 in Mathematics; Thesis Advisor: G.G. Lorentz M.A. 1969 in Mathematics

Undergraduate Education: University of Texas
B.A. 1968 in Mathematics

Professional Employment

Permanent Positions

1983–present	Professor	University of South Carolina, Columbia, SC
1995–present	Assoc. Faculty School of the Environment	University of South Carolina, Columbia, SC
1978–1983	Associate Professor	University of South Carolina, Columbia, SC
1976–1978	Assistant Professor	University of South Carolina, Columbia, SC
1972–1976	Assistant Professor	Oakland University,Oakland, CA

Visiting Positions

Fall 1992	Texas A&M University
1986–1987	University of Wyoming
1978–1979	McMaster University
Summer 1972	Louisiana State University

Publications: 49
1 Research Monograph (coauthored), 1 MEMOIRS (coauthored), 44 research articles in print or in press; 1 in preparation, 3 technical reports.

Invited Addresses And Seminars: Over 37 conferences and colloquia and 28 international conferences.

Research Instruction: PostDoctoral Assistants - 16 completed and 2 in progress; Doctoral Students - 7 completed and 1 in progress; Masters Students - 13 completed; Honors College Theses - 3 completed and 1 in progress; Undergraduate Research Students - 19 completed and 3 in progress.

Grant Support: PI on 6 NSF research operating grants (Modern Analysis and Probability, Classical Analysis); NSF SCREMS grants (PI-1, CoPI-1); 1 NSF EPSCoR infrastructure grant (co-investigator); PI on 6 DOE grants, 1 DOD EPSCoR grant, 1 NASA grant, and 1 industrial grant. CoPI on 5 ONR grants, 3 ONR DURIP grants, 2 Research Office Grants; 1 State of South Carolina grant, and 1 NSF vBNS grant. Investigator on DARPA, ONR, and AFSOR grants. Additional equipment grants and matches from DOE, Silicon Graphics, Stardent, Ardent, and Intel.
Total Federal Grant Support as PI exceeds $3,170,000.

Consultant: ZeroTree Technologies, Inc (Santa Clara, CA); e-Media (Calverton, MD); Anatomy and Computer Science Depts. (University of Wisconsin); HydroGeoLogic, Inc. (Herndon, VA); Institute for Scientific Computation (Texas A&M).

Editing, Refereeing, and Reviewing: Member, Editorial Board of Constructive Approximation (1990-present); referee for 26 professional journals, and reviewer for grant proposals from 9 programs in 5 agencies.

Other Professional Service: Co-Organizer of 4 Conferences & 2 Workshops; IDR-NSF Member at Large (1999-present); Partnership in Computational Science Steering Committee (1991–1997); DOE Soil Center Advisory Committee (1995–1996); State of South Carolina EPSCoR Committee (1994–1997); State of South Carolina Supercomputer and Networking Board (1995–1998).

November 15, 2002 Robert C. Sharpley

The Publications of Robert Sharpley

Monographs and Memiors

1. Colin Bennett and Robert Sharpley, *Interpolation of operators*, Pure and Applied Mathematics, vol. 129, Academic Press Inc., Boston, MA, 1988, ISBN 0-12-088730-4. MR 89e:46001
2. Ronald A. DeVore and Robert C. Sharpley, *Maximal functions measuring smoothness*, Mem. Amer. Math. Soc. **47** (1984), viii+115. MR 85g:46039

Articles

3. Robert Sharpley, *Spaces $\Lambda_\alpha(X)$ and interpolation*, J. Functional Analysis **11** (1972), 479–513. MR 49 #9611
4. ———, *Interpolation theorems for compact operators*, Indiana Univ. Math. J. **22** (1972/73), 965–984. MR 55 #11023
5. ———, *Interpolation of operators for Λ spaces*, Bull. Amer. Math. Soc. **80** (1974), 259–261. MR 49 #9621
6. ———, *Interpolation of n pairs and counterexamples employing indices*, J. Approximation Theory **13** (1975), 117–127, Collection of articles dedicated to G. G. Lorentz on the occasion of his sixty-fifth birthday. MR 52 #11569
7. ———, *Characterization of intermediate spaces of M_ϕ spaces*, Linear Operators and Approximation, II (Proc. Conf., Math. Res. Inst., Oberwolfach, 1974), vol. 25, Birkhäuser, Basel, 1974, pp. 205–214. Internat. Ser. Numer. Math. MR 57 #1110
8. ———, *Fractional integration in Orlicz spaces*, Proc. Amer. Math. Soc. **59** (1976), 99–106. MR 53 #14107
9. ———, *Multilinear weak type interpolation of mn-tuples with applications*, Studia Math. **60** (1977), 179–194. MR 55 #13230
10. Colin Bennett and Robert C. Sharpley, *Weak-type inequalities in analysis*, Linear Spaces and Approximation (Proc. Conf., Math. Res. Inst., Oberwolfach, 1977), Lecture Notes in Biomath., vol. 21, Springer, Berlin, 1978, pp. 151–162. MR 80d:47049
11. Ronald A. DeVore, Sherman D. Riemenschneider, and Robert C. Sharpley, *Weak interpolation in Banach spaces*, J. Funct. Anal. **33** (1979), 58–94. MR 81f:46040
12. Colin Bennett and Robert Sharpley, *Weak-type inequalities for H^p and BMO*, Harmonic Analysis in Euclidean Spaces (Proc. Sympos. Pure Math., Williams Coll., Williamstown, Mass., 1978), Part 1, Proc. Sympos. Pure Math., XXXV, Part, Amer. Math. Soc., Providence, R.I., 1979, pp. 201–229. MR 80j:46044
13. Robert Sharpley, *Counterexamples for classical operators on Lorentz-Zygmund spaces*, Studia Math. **68** (1980), 141–158. MR 82e:42015
14. C. Bennett and R. Sharpley, *On an inequality for the sharp function*, Quantitative Approximation (Proc. Internat. Sympos., Bonn, 1979), Academic Press, New York, 1980, pp. 1–6. MR 82a:42017
15. Colin Bennett, Ronald A. DeVore, and Robert Sharpley, *Weak-L^∞ and BMO*, Ann. of Math. (2) **113** (1981), 601–611. MR 82h:46047
16. Colin Bennett and Robert Sharpley, *Interpolation between H^1 and L^∞*, Functional Analysis and Approximation (Oberwolfach, 1980), Internat. Ser. Numer. Math., vol. 60, Birkhäuser, Basel, 1981, pp. 111–116. MR 83h:46040
17. C. Bennett, R. A. DeVore, and R. Sharpley, *Maximal singular integrals on L^∞*, Functions, Series, Operators, Vol. I, II (Budapest, 1980), Colloq. Math. Soc. János Bolyai, vol. 35, North-Holland, Amsterdam, 1983, pp. 233–236. MR 86b:42017
18. Robert C. Sharpley, *Cone conditions and the modulus of continuity*, Second Edmonton Conference on Approximation Theory (Edmonton, Alta., 1982), CMS Conf. Proc., vol. 3, Amer. Math. Soc., Providence, RI, 1983, pp. 341–351. MR 85h:41037
19. R. A. DeVore and R. C. Sharpley, *On the differentiability of functions in $\mathbf{R}^n$*, Proc. Amer. Math. Soc. **91** (1984), 326–328. MR 86b:26022
20. Robert Sharpley, *Interpolation of H^1 and H^∞*, Anniversary Volume on Approximation Theory and Functional Analysis (Oberwolfach, 1983), Internat. Schriftenreihe Numer. Math., vol. 65, Birkhäuser, Basel, 1984, pp. 207–211. MR 88b:46045
21. R. A. DeVore, R. C. Sharpley, and S. D. Riemenschneider, *n-widths for $\mathcal{C}_p^\alpha$ spaces*, Anniversary Volume on Approximation Theory and Functional Analysis (Oberwolfach, 1983), Internat. Schriftenreihe Numer. Math., vol. 65, Birkhäuser, Basel, 1984, pp. 213–222. MR 87g:41060

November 15, 2002 Robert C. Sharpley

22. Colin Bennett and Robert Sharpley, *K-divisibility and a theorem of Lorentz and Shimogaki*, Proc. Amer. Math. Soc. **96** (1986), 585–592. MR 88g:46086

23. Robert Sharpley, *On the atomic decomposition of H^1 and interpolation*, Proc. Amer. Math. Soc. **97** (1986), 186–188. MR 87f:30086

24. _____, *A characterization of the interpolation spaces of H^1 and L^∞ on the line*, Constr. Approx. **4** (1988), 199–209. MR 89h:46041

25. Robert Sharpley and Yong-sun Shim, *Singular integrals on C_p^α*, Studia Math. **92** (1989), 285–293. MR 90e:42031

26. James Sochacki, Patrick O'Leary, Colin Bennett, Richard.E. Ewing, and Robert Sharpley, *Seismic modeling and inversion on the NCUBE*, The Fifth Distributed Memory Conference, IEEE Comp. Soc. Press, Washington, D.C., 1990, pp. 530–535.

27. Ronald A. DeVore and Robert C. Sharpley, *Besov spaces on domains in $\mathbf{R}^d$*, Trans. Amer. Math. Soc. **335** (1993), 843–864. MR 93d:46051

28. Richard E. Ewing, Magne Espedal, and Robert C. Sharpley, *Contaminant Transfer Simulation of Unsaturated and Multiphase Flows in Porous Media*, Advances in Hydro-Science and Engineering, Vol. I, Part B., University of Mississippi Press, 1993, pp. 1867–1863.

29. Richard E. Ewing, Derek Mitchum, Patrick Oleary, Robert C. Sharpley, and James Sochacki, *Distributed Computation of Wave Propagation Models Using PVM*, IEEE Parallel and Distributed Technology **2** (1994), 26–31.

30. Koffi B. Fadimba and Robert C. Sharpley, *A priori estimates and regularization for a class of porous medium equations*, Nonlinear World **2** (1995), 13–41. MR 97a:35098

31. Richard Babarsky and Robert Sharpley, *Expanded Stability Through Higher Temporal Accuracy for Time-Centered Advection Schemes*, The Monthly Weather Review **125** (1997), 1277–1295.

32. Richard E. Ewing, Robert Sharpley, and Hong Wang, *Eulerian-Lagrangian localized adjoint methods for transport of nuclear-waste contamination in porous media*, Computational Methods in Water Resources X, Vol. 1, Kluwer Academic Publ., Boston, 1994, pp. 241–248.

33. Richard E. Ewing, Hong Wang, Robert C. Sharpley, and Michael A. Celia, *A three dimensional finite element simulation for transport of nuclear-waste contamination in porous media*, Computer Methods and Advances in Geomechanics, Vol. IV, A.A.Balkema Publishers, Rotterdam, Netherlands, 1995, pp. 2673–2679.

34. Hong Wang, Richard E. Ewing, and Robert C. Sharpley, *On different ELLAM schemes for reactive transport equations*, Advanced Mathematics: Computations and Applications (Novosibirsk, 1995), NCC Publ., Novosibirsk, 1995, pp. 252–262. 1 701 441

35. H. Wang, R.C. Sharpley, and S. Man, *An ELLAM scheme for advection-diffusion equations in multiple dimensions*, Computational Methods in Water Resources XI," Vol. II: Computational Methods in Surface Flow and Transport Problems, Computational Mechanics Publications, South Hampton and Boston, 1996, pp. 99–106.

36. Hong Wang, Helge K. Dahle, Richard E. Ewing, Magne S. Espedal, Robert C. Sharpley, and Shushuang Man, *An ELLAM scheme for advection-diffusion equations in two dimensions*, SIAM J. Sci. Comput. **20** (1999), 2160–2194 (electronic). MR 2000d:65166

37. L. Scott Johnson, A. Kaulgud, R.C. Sharpley, R.E. Ewing, Z. Leyk, J. Pasciak, M.A. Celia, and J.R. Brannan, *Integration of Contaminant Transport Simulators on Parallel Machines with a Graphical User Interface for Remote Interactive Modeling*, Proceedings of the 1997 Simulation Multiconference, Soc. for Computer Simulation International, San Diego, April 1997, pp. 319–324.

38. Hong Wang, Mohamed Al-Lawatia, and Robert C. Sharpley, *A characteristic domain decomposition and space-time local refinement method for first-order linear hyperbolic equations with interfaces*, Numer. Methods Partial Differential Equations **15** (1999), 1–28. MR 99m:65180

39. Mohamed Al-Lawatia, Hong Wang, and Robert C. Sharpley, *A Second Order Characteristic Method for Advection-Diffusion Equations and Comparison to Other Schemes*, Adv. Water Resources **22** (1999), 741–768.

40. R. DeVore, L.S. Johnson, C. Pan, and R. Sharpley, *Optimal entropy encoders for mining multiply resolved data*, Data Mining II, WIT Press, Boston, 2000, pp. 73–82.

41. H. Wang, M. Al-Lawatia, R. Sharpley, M. Celia, and A. Purnama, *Modeling solute transport in unsaturated soils by the Eulerian-Lagrangian localized adjoint method*, Towards a Safe Geoenvironment in the New Millennium. Proceedings of the International Conference on Geoenvironment 2000, Sultan Qaboos University Press, Muscat-Sultante of Oman, 2000, pp. 466–477.

42. M. Al-Lawatia, R. Sharpley, and H. Wang, *A finite volume ELLAM for advection-diffusion equations*, Towards a Safe Geoenvironment in the New Millennium. Proceedings of the International Conference on Geoenvironment 2000, Sultan Qaboos University Press, Muscat-Sultante of Oman, 2000, pp. 273–284.

43. M. Al-Lawatia, H. Wang, and R. Sharpley, *A parallel characteristic method for first-order hyperbolic equations*, Journal of UAE University (to appear).

44. M. Al-Lawatia, R.C. Sharpley, and H. Wang, *A finite volume Runge-Kutta ELLAM method for the solution of advection-diffusion equations*, SQU Journal of Science and Technology **6** (2001), 67–83.

45. Robert C. Sharpley, Borislav Karaivanov, and Pencho Petrushev, *Algorithms for Nonlinear piecewise polynomial approximation: Theoretical Aspects*, Trans. Amer. Math. Soc. (to appear), 53 pp.

46. Ronald DeVore, Alexander Petukhov, and Robert C. Sharpley, *Motion estimation with the redundant wavelet transform*, The Third International Workshop on Digital and Computational Video (DCV '02), St. Petersburg, Fl., 2002 (to appear).

Paul Sperry

Graduate Education: New Mexico State University, Las Cruces, NM
Ph.D. 1963 in Mathematics; Thesis Advisor: J. Giever
M.S. 1962 in Mathematics

Undergraduate Education:
B.S. June 1960 in Mathematics.

Professional Employment

Permanent Positions

1967–present	Associate Professor	University of South Carolina, Columbia, SC
1963–1967	Assistant Professor	University of South Carolina, Columbia, SC

Publications: 3 articles in print.

Doctoral Students: 3 completed.

Masters Students: 5 completed.

The Publications of Paul Sperry

1. R. G. Phillips and P. L. Sperry, *Elementary extensions of linear topological abelian groups*, Proc. Amer. Math. Soc. **31** (1972), 525–528. MR 44 #5410
2. P. L. Sperry, *On generating systems for abelian groups*, Proc. Amer. Math. Soc. **24** (1970), 148–153. MR 40 #234
3. _____, *The homotopy axiom for Alexander theory*, J. London Math. Soc. **41** (1966), 97–100. MR 32 #3044

November 15, 2002 Paul Sperry

Robert M. Stephenson, Jr.

Graduate Education: Tulane University
Ph.D. 1967 in Mathematics; Thesis Advisor: Manuel P. Berriozábal
M.S. 1965 in Mathematics

Undergraduate Education: Vanderbilt University
B.A. June 1962 in Mathematics.

Professional Employment

Permanent Positions

1994–2001	Department Chair	University of South Carolina, Columbia, SC
1978–present	Professor	University of South Carolina, Columbia, SC
1976–1979	Department Chair	University of South Carolina, Columbia, SC
1973–1978	Associate Professor	University of South Carolina, Columbia, SC
1967–1973	Assistant Professor	University of North Carolina, Chapel Hill, NC

Visiting Positions: Have been a visiting faculty member at Tulane University (summer of 1967), University of North Carolina, Greensboro, NC (fall of 1980) and University of Kansas, Lawrence, KS (March of 1991 and March of 2002).

Publications: 39 (37 articles or book chapters in print or in press and 1 article in preparation).

Talks, Colloquia and Seminars at universities and meetings: have given over 35 invited and 25 contributed presentations.

Refereeing and Reviewing: Have refereed over 95 articles for 21 professional journals and conference proceedings, reviewed 12 grant proposals, served as an outside evaluator for 11 promotion/tenure candidates, and published in Mathematical Reviews and in Zentralblatt für Mathematik 125 reviews.

Graduate Student Supervision: 3 doctoral students completed; 2 masters students completed.

Service on Organizing Committees: Have served as organizer, co-organizer, or organizing committee member for 6 regional, national or international meetings and conferences.

University Teaching and Service: University Committee on Tenure and Promotions, 1983–1986 and 1992–1995, Chairman in 1985–1986, and co-authored the first edition of *A Guide to USC-Columbia Tenure and Promotion Procedures*. President's Ad Hoc Promotion and Tenure Review Committee, 1996–1997. Dean's Search Committee, 1997–1998. Have served on or chaired numerous Department or College committees. Served as Acting Chair of the Department in the summer of 1983. Have taught 15 honors courses in calculus or differential equations, a variety of undergraduate mathematics courses, and graduate courses in topology and in measure theory. Have frequently served as an undergraduate advisor and while Department Chair temporarily served as the Undergraduate Director several times.

The Publications of Robert Stephenson

1. Robert M. Stephenson Jr., *Pseudocompact spaces*, Encyclopedia of General Topology (K. P. . Hart, J.-I. . Nagata, and J. E. . Vaughan, eds.), Elsevier Science, New York (In press).
2. Jack R. Porter, R. M. Stephenson Jr., and R. Grant Woods, *Spaces whose pseudocompact subspaces are closed subsets* (In preparation).
3. Jack R. Porter and Robert M. Stephenson Jr., *Minimal Hausdorff spaces—then and now*, Handbook of the History of General Topology, Vol. 2 (San Antonio, TX, 1993), Hist. Topol., vol. 2, Kluwer Acad. Publ., Dordrecht, 1998, pp. 669–687. MR 2001g:54001
4. Jack R. Porter, Robert M. Stephenson Jr., and R. Grant Woods, *Maximal feebly compact expansions*, Papers on General Topology and Applications (Slippery Rock, PA, 1993), Ann. New York Acad. Sci., vol. 767, New York Acad. Sci., New York, 1995, pp. 168–187. MR 98g:54007
5. Y. Bdeir and R. M. Stephenson Jr., *Minimal totally disconnected spaces*, Houston J. Math. **20** (1994), 721–744. MR 96f:54030
6. Jack R. Porter, R. M. Stephenson Jr., and R. Grant Woods, *Maximal pseudocompact spaces*, Comment. Math. Univ. Carolin. **35** (1994), 127–145. MR 95j:54004
7. Jack R. Porter, Robert M. Stephenson Jr., and R. Grant Woods, *Maximal feebly compact spaces*, Topology Appl. **52** (1993), 203–219. MR 94f:54001
8. R. M. Stephenson Jr., *Moore-closed and first countable feebly compact extension spaces*, Topology Appl. **27** (1987), 11–28. MR 89g:54034
9. Robert M. Stephenson Jr., *Concerning the equation* $C(\prod\{X_a\}) = C(\prod\{wX_a\})$, Rings of Continuous Functions (Cincinnati, Ohio, 1982), Lecture Notes in Pure and Appl. Math., vol. 95, Dekker, New York, 1985, pp. 277–281. MR 86j:54017
10. R. M. Stephenson Jr., *Initially κ-compact and related spaces*, Handbook of Set-Theoretic Topology, North-Holland, Amsterdam, 1984, pp. 603–632. MR 86i:54024
11. ———, *A theorem on the cardinality of κ-total spaces*, Proc. Amer. Math. Soc. **89** (1983), 367–370. MR 85c:54005
12. ———, *Pseudocompact and Stone-Weierstrass product spaces*, Pacific J. Math. **99** (1982), 159–174. MR 83e:54008
13. ———, *The development of and gaps in the theory of products of initially m-compact spaces*, The Proceedings of the 1981 Topology Conference (Blacksburg, Va., 1981), vol. 6, 1981, pp. 99–113 (1982). MR 83c:54030
14. ———, *Symmetrizable spaces and separability*, The Proceedings of the 1979 Topology Conference (Ohio Univ., Athens, Ohio, 1979), vol. 4, 1979, pp. 589–599 (1980). MR 81m:54056
15. S. W. Davis and R. M. Stephenson Jr., *Separability and minimal weak base topologies*, Proc. Amer. Math. Soc. **74** (1979), 371–378. MR 81j:54037
16. R. M. Stephenson Jr., *Symmetrizable-closed spaces*, Pacific J. Math. **68** (1977), 507–514. MR 58 #2735
17. ———, *Near compactness and separability of symmetrizable spaces*, Proc. Amer. Math. Soc. **68** (1978), 108–110. MR 56 #16575
18. ———, *Some unsolved problems concerning P-minimal and P-closed spaces*, Topology (Proc. Ninth Annual Spring Conf., Memphis State Univ., Memphis, Tenn., 1975), Dekker, New York, 1976, pp. 249–257. Lecture Notes in Pure and Appl. Math., Vol. 24. MR 56 #6612
19. ———, *Symmetrizable, $\mathcal{F}$-, and weakly first countable spaces*, Canad. J. Math. **29** (1977), 480–488. MR 56 #1260
20. R. M. Stephenson Jr. and J. E. Vaughan, *Products of initially m-compact spaces*, Trans. Amer. Math. Soc. **196** (1974), 177–189. MR 54 #13848
21. R. M. Stephenson Jr., *Not every minimal Hausdorff space is e-compact*, Proc. Amer. Math. Soc. **52** (1975), 381–389. MR 54 #11276
22. Peter W. Harley III and R. M. Stephenson Jr., *Symmetrizable and related spaces*, Trans. Amer. Math. Soc. **219** (1976), 89–111. MR 54 #6092
23. R. M. Stephenson Jr., *Products of nearly compact spaces*, Proceedings of the University of Oklahoma Topology Conference Dedicated to Robert Lee Moore (Norman, Okla., 1972), Univ. of Oklahoma, Norman, Okla., 1972, pp. 310–320. MR 50 #14666
24. ———, *Product spaces and the Stone-Weierstrass theorem*, General Topology and Appl. **3** (1973), 77–79. MR 47 #4218

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25. R. M. Stephenson, *Two R-closed spaces*, Canad. J. Math. **24** (1972), 286–292. MR 45 #7665
26. R. M. Stephenson Jr., *Discrete subsets of perfectly normal spaces*, Proc. Amer. Math. Soc. **34** (1972), 605–608. MR 45 #5944
27. _____, *Minimal first countable Hausdorff spaces*, Pacific J. Math. **36** (1971), 819–825. MR 44 #5916
28. _____, *Minimal topological groups*, Math. Ann. **192** (1971), 193–195. MR 44 #4141
29. _____, *Products of minimal Urysohn spaces*, Duke Math. J. **38** (1971), 703–707. MR 44 #2194
30. M. P. Berri, J. R. Porter, and R. M. Stephenson Jr., *A survey of minimal topological spaces*, General Topology and Its Relations to Modern Analysis and Algebra, III (Proc. Conf., Kanpur, 1968), Academia, Prague, 1971, pp. 93–114. MR 43 #3985
31. Victor Saks and R. M. Stephenson Jr., *Products of $\mathfrak{m}$-compact spaces*, Proc. Amer. Math. Soc. **28** (1971), 279–288. MR 42 #8448
32. R. M. Stephenson Jr., *Product spaces for which the Stone-Weierstrass theorem holds*, Proc. Amer. Math. Soc. **21** (1969), 284–288. MR 40 #3499
33. _____, *Noncut points and modified compactness conditions*, Proc. Amer. Math. Soc. **23** (1969), 266–272. MR 40 #2010
34. _____, *A countable minimal Urysohn space is compact*, Proc. Amer. Math. Soc. **22** (1969), 625–626. MR 39 #6255
35. _____, *Minimal first countable topologies*, Trans. Amer. Math. Soc. **138** (1969), 115–127. MR 38 #6537
36. Robert M. Stephenson Jr., *Two minimal first countable Hausdorff spaces*, Math. Z. **108** (1969), 171–172. MR 38 #6531
37. R. M. Stephenson Jr., *Pseudocompact spaces*, Trans. Amer. Math. Soc. **134** (1968), 437–448. MR 38 #674
38. C. T. Scarborough and R. M. Stephenson, *Minimal topologies*, Colloq. Math. **19** (1968), 215–219. MR 37 #3522
39. R. M. Stephenson Jr., *Spaces for which the Stone-Weierstrass theorem holds*, Trans. Amer. Math. Soc. **133** (1968), 537–546. MR 37 #3337

Manfred Stoll

Graduate Education: Pennsylvania State University
Ph.D. 1971 in Mathematics; Thesis Advisor: Kyong T. Hahn
M.A. 1968 in Mathematics; Thesis Advisor: Josephine Mitchell

Undergraduate Education: State University of New York at Albany
B.A. June 1967 in Mathematics.

Professional Employment

Permanent Positions

2001–present	Department Chair	University of South Carolina, Columbia, SC
2000–2001	Undergraduate Director	University of South Carolina, Columbia, SC
1985–present	Professor	University of South Carolina, Columbia, SC
1980–1989	Graduate Director	University of South Carolina, Columbia, SC
1979–1982	Assistant Chair	University of South Carolina, Columbia, SC
1976–1985	Associate Professor	University of South Carolina, Columbia, SC
1971–1976	Assistant Professor	University of South Carolina, Columbia, SC

Publications: 42 (2 books and 39 articles in print or in press and 1 book in preparation).

Invited Addresses and External Colloquia/Seminars: 17 since 1990 at 15 different institutions in 4 countries.

Doctoral Students: 6 completed and 1 in progress.

Masters Students: 3 completed.

Refereeing, and Reviewing: Referee for 12 professional journals, reviewer for 2 funding agencies, reviewer for Zentralblatt and Mathematical Reviews including 5 book reviews.

The Publications of Manfred Stoll

Books

1. Manfred Stoll, *Invariant potential theory in the unit ball of* $\mathbf{C}^n$, London Mathematical Society Lecture Note Series, vol. 199, Cambridge University Press, Cambridge, 1994, ISBN 0-521-46830-2. MR 96f:31011
2. _____, *Introduction to Analysis*, 2nd ed., Addison-Wesley Publ. Co., New York, 2001.
3. _____, *Introduction to Analysis*, 1st ed., Addison-Wesley Publ. Co., New York, 1997.

Articles

4. _____, *The Littlewood-Paley inequality for domains in* $\mathbb{R}^n$ (In Preparation).
5. _____, *Weighted Dirichlet spaces of holomorphic and* $\mathcal{M}$*–harmonic functions on the unit ball in* $\mathbb{C}^n$ (In Preparation).
6. _____, *Dirichlet and Bergman spaces of holomorphic functions*, Monatshefte für Mathematik (To Appear).
7. _____, *On the integrability of eigenfunctions of the Laplace-Beltrami operator in the unit ball of* $\mathbb{C}^n$, Potential Anal. **16** (2002), 205–220. 1 885 760
8. _____, *Holomorphic and* $\mathcal{M}$*-harmonic functions with finite Dirichlet integral on the unit ball of* $\mathbb{C}^n$, Illinois J. Math. **45** (2001), 139–162. MR 2002f:32007
9. K. T. Hahn, M. Stoll, and E. H. Youssfi, *Invariant potentials and tangential boundary behavior of* $\mathcal{M}$*-subharmonic functions in the unit ball*, Complex Variables Theory Appl. **28** (1995), 67–96. MR 2000d:32011
10. Manfred Stoll, *Weighted tangential boundary limits of subharmonic functions on domains in* $\mathbf{R}^n$ $(n \geq 2)$, Math. Scand. **83** (1998), 300–308. MR 99m:31013
11. _____, *Boundary limits and non-integrability of* $\mathcal{M}$*-subharmonic functions in the unit ball of* $\mathbf{C}^n$ $(n \geq 1)$, Trans. Amer. Math. Soc. **349** (1997), 3773–3785. MR 97k:32024
12. _____, *Non-isotropic Hausdorff capacity of exceptional sets of invariant potentials*, Potential Anal. **4** (1995), 141–155. MR 96b:31011
13. _____, *Tangential boundary limits of invariant potentials in the unit ball of* $\mathbf{C}^n$, J. Math. Anal. Appl. **177** (1993), 553–571. MR 94h:32020
14. _____, *A characterization of Hardy spaces on the unit ball of* $\mathbf{C}^n$, J. London Math. Soc. (2) **48** (1993), 126–136. MR 94g:32006
15. _____, *Composition of potentials with inner functions*, Math. Scand. **71** (1992), 122–132. MR 94b:31006
16. _____, *Admissible limits of invariant potentials in the unit ball of* $\mathbf{C}^n$, Complex Variables Theory Appl. **18** (1992), 167–185. MR 93i:32007
17. _____, *A characterization of Hardy-Orlicz spaces on planar domains*, Proc. Amer. Math. Soc. **117** (1993), 1031–1038. MR 93e:46034
18. M. Stoll, *Rate of growth of* p*th means of invariant potentials in the unit ball of* $\mathbf{C}^n$*. II*, J. Math. Anal. Appl. **165** (1992), 374–398. MR 93b:32052
19. S. H. Liu and M. Stoll, *Projections on spaces of holomorphic functions on certain domains in* $\mathbf{C}^2$, Complex Variables Theory Appl. **17** (1992), 223–233. MR 92m:32041
20. M. Stoll, *Uniform limits of Green potentials in the unit disc*, Arch. Math. (Basel) **56** (1991), 58–67. MR 92b:31001
21. _____, *Rate of growth of* p*th means of invariant potentials in the unit ball of* $\mathbf{C}^n$, J. Math. Anal. Appl. **143** (1989), 480–499. MR 90j:32037
22. K. T. Hahn and M. Stoll, *Boundary limits of Green potentials on the ball in* $\mathbf{C}^n$, Complex Variables Theory Appl. **9** (1988), 359–371. MR 89f:31005
23. Colin Bennett and Manfred Stoll, *Derivatives of analytic functions and bounded mean oscillation*, Arch. Math. (Basel) **47** (1986), 438–442. MR 88a:30074
24. Manfred Stoll, *Mean growth and Fourier coefficients of some classes of holomorphic functions on bounded symmetric domains*, Ann. Polon. Math. **45** (1985), 161–183. MR 87a:32029
25. M. Stoll, *Boundary limits of subharmonic functions in the disc*, Proc. Amer. Math. Soc. **93** (1985), 567–568. MR 86h:31004

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26. Manfred Stoll, *Boundary limits of Green potentials in the unit disc*, Arch. Math. (Basel) **44** (1985), 451–455. MR 86g:31003

27. W. C. Nestlerode and M. Stoll, *Radial limits of n-subharmonic functions in the polydisc*, Trans. Amer. Math. Soc. **279** (1983), 691–703. MR 85h:32002

28. Manfred Stoll, *On the rate of growth of the means M_p of holomorphic and pluriharmonic functions on the ball*, J. Math. Anal. Appl. **93** (1983), 109–127. MR 85e:32008

29. ———, *Radial limits of the Poisson kernel on the classical Cartan domains*, Ann. Polon. Math. **38** (1980), 207–216. MR 82c:32037

30. ———, *Invertible and weakly invertible singular inner functions in the Bergman spaces*, Arch. Math. (Basel) **31** (1978/79), 501–508. MR 80f:30025

31. James W. Roberts and Manfred Stoll, *Correction to the paper: "Prime and principal ideals in the algebra N^+" (Arch. Math. (Basel)* **27** *(1976), 387–393)*, Arch. Math. (Basel) **30** (1978), 672. MR 58 #11454

32. M. Stoll, *Mean growth and Taylor coefficients of some topological algebras of analytic functions*, Ann. Polon. Math. **35** (1977/78), 139–158. MR 57 #3858

33. ———, *Mean value theorems for harmonic and holomorphic functions on bounded symmetric domains*, J. Reine Angew. Math. **290** (1977), 191–198. MR 55 #10734

34. James W. Roberts and Manfred Stoll, *Composition operators on F^+*, Studia Math. **57** (1976), 217–228. MR 55 #8773

35. ———, *Prime and principal ideals in the algebra N^+*, Arch. Math. (Basel) **27** (1976), 387–393. MR 54 #10625

36. Manfred Stoll, *The space N_* of holomorphic functions on bounded symmetric domains*, Ann. Polon. Math. **32** (1976), 95–110. MR 54 #5488

37. ———, *Harmonic majorants for plurisubharmonic functions on bounded symmetric domains with applications to the spaces H_F and N_**, J. Reine Angew. Math. **282** (1976), 80–87. MR 53 #8492

38. M. Stoll, *A characterization of $F^+ \cap N$*, Proc. Amer. Math. Soc. **57** (1976), 97–98. MR 53 #3315

39. ———, *Properties of the space h^p $(0 < p \leq 1)$ of harmonic functions on the unit disc*, Arch. Math. (Basel) **25** (1974), 613–618. MR 51 #8437

40. Manfred Stoll, *Hardy-type spaces of harmonic functions on symmetric spaces of noncompact type*, J. Reine Angew. Math. **271** (1974), 63–76. MR 51 #945

41. M. Stoll, *Integral formulae for pluriharmonic functions on bounded symmetric domains*, Duke Math. J. **41** (1974), 393–404. MR 49 #3212

David Sumner

Graduate Education: University of Masachusetts
Ph.D. 1971 in Mathematics; Thesis Advisor: David J. Foulis

Undergraduate Education: University of Florida
B.S. June 1967 in Mathematics.

Professional Employment

Permanent Positions

1973 - Present Associate Professor, University of South Carolina
1980-1982 Director of Undergraduate Studies in Mathematics, University of South Carolina, Columbia, SC
1971-1973 Assistant Professor, University of South Carolina, Columbia, SC

Publications: 27 (1 submitted).

Invited Addresses and External Colloquia/Seminars: 11 since 1990.

Doctoral Students: 6 completed.

Masters Students: 10 completed.

Refereeing, and Reviewing: Have refereed for 9 professional journals, 3 funding agencies, 3 conferences. Served as outside reference for promotion at two institutions. Have reviewed for Mathematical Reviews.

The Publications of David Sumner

1. Matteo Paris, David P. Sumner, and Ewa Wojcicka, *Edge-domination-critical graphs with cut-vertices*, Proceedings of the Thirtieth Southeastern International Conference on Combinatorics, Graph Theory, and Computing (Boca Raton, FL, 1999), vol. 141, 1999, pp. 111–117. MR 2000k:05212
2. Odile Favaron, David P. Sumner, and Ewa Wojcicka, *The diameter of domination k-critical graphs*, J. Graph Theory **18** (1994), 723–734. MR 95k:05094
3. David P. Sumner, *Critical concepts in domination*, Discrete Math. **86** (1990), 33–46. MR 91k:05055
4. Manton M. Matthews and David P. Sumner, *Longest paths and cycles in $K_{1,3}$-free graphs*, J. Graph Theory **9** (1985), 269–277. MR 86h:05071
5. M. M. Matthews and D. P. Sumner, *Hamiltonian results in $K_{1,3}$-free graphs*, J. Graph Theory **8** (1984), 139–146. MR 85f:05083
6. David P. Sumner and Pattie Blitch, *Domination critical graphs*, J. Combin. Theory Ser. B **34** (1983), 65–76. MR 85d:05149
7. D. P. Sumner, *Subtrees of a graph and the chromatic number*, The Theory and Applications of Graphs (Kalamazoo, Mich., 1980), Wiley, New York, 1981, pp. 557–576. MR 83c:05047
8. Frank Harary and David Sumner, *The dichromatic number of an oriented tree*, J. Combin. Inform. System Sci. **5** (1980), 184–187. MR 82f:05040
9. David P. Sumner, *Randomly matchable graphs*, J. Graph Theory **3** (1979), 183–186. MR 80k:05088
10. David J. Oberly and David P. Sumner, *Every connected, locally connected nontrivial graph with no induced claw is Hamiltonian*, J. Graph Theory **3** (1979), 351–356. MR 80j:05086
11. David P. Sumner, *The connected Ramsey number*, Discrete Math. **22** (1978), 49–55. MR 80a:05152
12. Dennis P. Geoffroy and David P. Sumner, *An upper bound on the size of a largest clique in a graph*, J. Graph Theory **2** (1978), 223–230. MR 58 #21811
13. _____, *The edge nucleus of a point-determining graph*, J. Combinatorial Theory Ser. B **24** (1978), 189–201. MR 58 #10609
14. David P. Sumner, *The nucleus of a point determining graph*, Discrete Math. **14** (1976), 91–97. MR 56 #2878
15. W. T. Trotter Jr., John I. Moore Jr., and David P. Sumner, *The dimension of a comparability graph*, Proc. Amer. Math. Soc. **60** (1976), 35–38 (1977). MR 54 #5062
16. David P. Sumner, *1-factors and antifactor sets*, J. London Math. Soc. (2) **13** (1976), 351–359. MR 53 #13047
17. _____, *Minimal line graphs*, Glasgow Math. J. **17** (1976), 12–16. MR 53 #13032
18. _____, *Dacey graphs*, J Austral. Math. Soc. **18** (1974), 492–502. MR 52 #2970
19. _____, *On Tutte's factorization theorem*, Graphs and Combinatorics (Proc. Capital Conf., George Washington Univ., Washington, D.C., 1973), Springer, Berlin, 1974, pp. 350–355. Lecture Notes in Math., Vol. 406. MR 51 #287
20. _____, *A criterion for n-fold transitivity of transformation groups*, Elem. Math. **29** (1974), 64–66. MR 49 #10763
21. _____, *1-factors of point determining graphs*, J. Combinatorial Theory Ser. B **16** (1974), 35–41. MR 48 #10905
22. _____, *Graphs indecomposable with respect to the X-join*, Discrete Math. **6** (1973), 281–298. MR 48 #3815
23. _____, *Graphs with 1-factors*, Proc. Amer. Math. Soc. **42** (1974), 8–12. MR 48 #2004
24. _____, *Point determination in graphs*, Discrete Math. **5** (1973), 179–187. MR 47 #4867
25. _____, *On a problem of Erdős*, Recent Progress in Combinatorics (Proc. Third Waterloo Conf. on Combinatorics, 1968), Academic Press, New York, 1969, pp. 319–322. MR 41 #3314
26. David P. Sumner and Ewa Wojcicka, *Graphs critical with respect to the domination number*, Domination in Graphs, Monogr. Textbooks Pure Appl. Math., vol. 209, Dekker, New York, 1998, pp. 439–469. 1 605 701

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Li-yeng Sung

Graduate Education: State University of New York at Stony Brook
Ph.D. 1983 in Mathematics; Dissertation Advisor: Michael E. Taylor

Chinese University of Hong Kong
M.S. 1978 in Mathematics

Undergraduate Education: Chinese University of Hong Kong
B.S. 1976 in Mathematics, summa cum laude

Professional Employment

Permanent Positions

1993–present	Associate Professor	University of South Carolina, Columbia, SC
1987–1993	Assistant Professor	Clarkson University, Potsdam, NY
1983–1987	Assistant Professor	The University of Michigan, Ann Arbor, MI

Awards and Honors

2001	EPSRC Visiting Fellow, Imperial College, UK
1998	London Mathematical Society Invited Lecturer, UK
1978–1982	Schlaumberger Fellowship, Rice University, Houston, TX

Publications: 24 (21 in print, 3 submitted)

Invited Addresses And Seminars: 29 at 26 different institutions in 9 countries

Grant Support: NSF principal investigator 1992–1995

Refereeing and Reviewing: Referee for 12 professional journals; reviewer for Zentralblatt Mathematik

The Publications of Li-Yeng Sung

1. S. C. Brenner and L.-Y. Sung, *Discrete Sobolev and Poincaré inequalities via Fourier series*, East-West J. Numer. Math. **8** (2000), 83–92. MR 2001g:42003
2. Susanne C. Brenner and Li-Yeng Sung, *Lower bounds for nonoverlapping domain decomposition preconditioners in two dimensions*, Math. Comp. **69** (2000), 1319–1339. MR 2001a:65156
3. Susanne C. Brenner and Li-yeng Sung, *Balancing domain decomposition for nonconforming plate elements*, Numer. Math. **83** (1999), 25–52. MR 2000i:65208
4. Li-Yeng Sung, *Square integrability and uniqueness of the solutions of the Kadomtsev-Petviashvili-I equation*, Math. Phys. Anal. Geom. **2** (1999), 1–24. MR 2000e:35197
5. A. S. Fokas, L.-Y. Sung, and D. Tsoubelis, *The inverse spectral method for colliding gravitational waves*, Math. Phys. Anal. Geom. **1** (1998/99), 313–330. MR 2000d:83043
6. Susanne C. Brenner and Li-yeng Sung, *Lower bounds for two-level additive Schwarz preconditioners for nonconforming finite elements*, Advances in Computational Mathematics (Guangzhou, 1997), Lecture Notes in Pure and Appl. Math., vol. 202, Dekker, New York, 1999, pp. 585–604. MR 99j:65196
7. S. C. Brenner and L.-Y. Sung, *Multigrid methods for the computation of singular solutions and stress intensity factors. II. Crack singularities*, BIT **37** (1997), 623–643, Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). MR 99i:65139
8. A. S. Fokas and Li-Yeng Sung, *The Cauchy problem for the Kadomtsev-Petviashvili-I equation without the zero mass constraint*, Math. Proc. Cambridge Philos. Soc. **125** (1999), 113–138. MR 99h:35185
9. Li-Yeng Sung, *The Cauchy problem for the Ishimori equation*, J. Funct. Anal. **139** (1996), 29–67. MR 97g:35170
10. L.-Y. Sung, *Long-time decay of the solutions of the Davey-Stewartson II equations*, J. Nonlinear Sci. **5** (1995), 433–452. MR 96g:35187
11. Li-Yeng Sung, *An inverse scattering transform for the Davey-Stewartson II equations. III*, J. Math. Anal. Appl. **183** (1994), 477–494. MR 95c:35239
12. _____, *An inverse scattering transform for the Davey-Stewartson II equations. II*, J. Math. Anal. Appl. **183** (1994), 289–325. MR 95c:35238
13. _____, *An inverse scattering transform for the Davey-Stewartson II equations. I*, J. Math. Anal. Appl. **183** (1994), 121–154. MR 95c:35237
14. A. S. Fokas and L.-Y. Sung, *On the solvability of the N-wave, Davey-Stewartson and Kadomtsev-Petviashvili equations*, Inverse Problems **8** (1992), 673–708. MR 93h:35177
15. Susanne C. Brenner and Li-Yeng Sung, *Linear finite element methods for planar linear elasticity*, Math. Comp. **59** (1992), 321–338. MR 93a:73078
16. Li-Yeng Sung and A. S. Fokas, *Inverse problems in multidimensions*, SIAM J. Math. Anal. **22** (1991), 1303–1331. MR 92i:35126
17. L.-Y. Sung and A. S. Fokas, *Inverse problem for $N \times N$ hyperbolic systems on the plane and the N-wave interactions*, Comm. Pure Appl. Math. **44** (1991), 535–571. MR 92d:34157
18. Li-Yeng Sung, *Positivity of a system of differential operators*, J. Differential Equations **66** (1987), 71–89. MR 88c:35163
19. _____, *Semiboundedness of systems of differential operators*, J. Differential Equations **65** (1986), 427–434. MR 88b:47068
20. _____, *On the perfectly reflecting boundary conditions*, Comm. Partial Differential Equations **9** (1984), 943–953. MR 86c:35031
21. Li-yeng Sung, *Initial-boundary value problems for linear dispersive evolution equations on the half-line*, Mathematical and Numerical Aspects of Wave Propagation (Santiago de Compostela, 2000), SIAM, Philadelphia, PA, 2000, pp. 374–378. 1 785 926

Laszlo Szekely

Education:

Hungarian Academy of Sciences
Candidate of the Mathematical Sciences 1987
Eotvos University
Ph.D. 1983 in Mathematics
M.Sc. 1980 in Mathematics

Professional Employmnet

Permanent Positions

1996–present	Professor	University of South Carolina, Columbia, SC
1994–1996	Director, Mathematical Institute	Eotvos University, Budapest, Hungary
1984–1996	Associate Professor	Eotvos University, Budapest, Hungary

Visiting Positions

2002–2003	Scientific Visitor	NCBI/NLM/NIH, Bethesda, MD
1992–1993	Visiting Associate Professor	University of New Mexico, Albuquerque, NM
1988–1990	Visiting Associate Professor	University of New Mexico, Albuquerque, NM

Postdoctoral Positions

1986-1987	Postdoctoral Fellow	University of Auckland, New Zealand
1982–1984	Research Fellow	JATE University, Szeged, Hungary

Awards and Honors

1998	Doctor of the Hungarian Academy of Sciences
	Fellow by Title, Renyi Mathematical Insitute, Budapest, Hungary
1991-92	Alexander von Humboldt Research Fellow, Bonn, Germany
1980	Outstanding Student of the Faculty of Science, Eotvos University, Budapest, Hungary
1978–1980	People's Republic Scholar, Hungary

Publication: approximately 90 refereed publications.

Invited Addresses and Seminars: Gave seminars at about 30 different institutions, some of them in the following foreign countries: England, Hungary, Italy, Germany, Poland, Canada, Australia, New Zealand. Have been invited speaker at 25 conferences in the USA, Canada, Mexico, Hungary, New Zealand, France, England, Germany, and the Netherlands.

Doctoral Students: 1 in progress.

Masters Stduents: 9 completed.

Grant Support: ONR 1992-93, NSF 1997-2000, 2000-2003, SCHE 2000

Conference Organizing or Program Committees: 4

Editing, Refereeing, and Reviewing: Editorial Board of Combinatorica; 170 reviews for Zentralblatt; 17 book reviews.

November 15, 2002 Laszlo Szekely

The Publications of László Székely

Book Edited

1. **L. Lovász and A. Gyárfás and G. Katona and A. Recski and L. Székely (eds.),** *Graph theory and combinatorial biology*, Proceedings of the International Colloquium on Combinatorics and Graph Theory Held in Balatonlelle, July 1996, Bolyai Society Mathematical Studies, vol. 7, János Bolyai Mathematical Society, Budapest, 1999, ISBN 963-8022-90-6. MR 99k:00031

Articles

2. O. Sýkora, L. A. Székely, and I. Vrťo, *Two counterexamples in graph drawing* (To appear).
3. I. B. Rogozin, K. S. Makarova, Y. I. Wolf, Murvai. J., E. Czabarka, L. A. Szekely, R. Tatusov, and Koonin. E. V., *Connected gene neighborhoods in prokaryotic genomes*, Nucleic Acids Res. **30** (2002), 2212–2223.
4. L. A. Sxxékely, *Erdős on unit distances and the Szemerédi-Trotter theorems*, Paul Erdős and His Mathematics (G. . Halász, L. . Lovász, M. . Simonovits, and V. T. . Sós, eds.), Bolyai Society Mathematical Studies, János Bolyai Mathematical Society, Budapest (to appear).
5. L. A. Székeley, *A successful concept for measuring non-planarity of grpahs: the crossing number*, Discrete Math. (to appear).
6. M. A. Steel and L. A. Székely, *Inverting random functions II: explicit bounds for parametric and non-parametric MLE, with applications*, SIAM J. Discrete Math. **15** (2002), 562–575.
7. L. A. Székely, *Counting rooted spanning forests in complete multipartite graphs*, Ars Cominatoria (to appear).
8. O. Sýkora, L. A. Székely, and Vrťo. I., *Fractional length and crossing numbers*, Graph Drawing '02 (to appear).
9. E. Czabarka, O. Sýkora, L. A. Székely, and Vrťo. I., *Crossing numbers and biplanar crossing numbers I: a survey of problems and results*, Finite and Infinite Sets (G. O. . Katona and T. . Fleiner, eds.) (To appear).
10. Miranca Fischermann, Arne Hoffmann, Dieter Rautenbach, László Székely, and Lutz Volkmann, *Wiener index versus maximum degree in trees*, Discrete Appl. Math. **122** (2002), 127–137. 1 907 827
11. Farhad Shahrokhi, Ondrej Sýkora, László A. Székely, and Imrich Vrťo, *On bipartite drawings and the linear arrangement problem*, SIAM J. Comput. **30** (2001), 1773–1789 (electronic). MR 2002j:05142
12. Ralph Howard, Gyula Károlyi, and László Székely, *Towards a Katona type proof for the 2-intersecting Erdős-Ko-Rado theorem*, Electron. J. Combin. **8** (2001), Research Paper 31, 8 pp. (electronic). MR 2002i:05112
13. Farhad Shahrokhi and László A. Székely, *Constructing integral uniform flows in symmetric networks with application to the edge-forwarding index problem*, Discrete Appl. Math. **108** (2001), 175–191, International Workshop on Graph-Theoretic Concepts in Computer Science (Smolenice Castle, 1998). MR 2001k:05109
14. Michael A. Steel and László A. Székely, *Inverting random functions*, Ann. Comb. **3** (1999), 103–113, Combinatorics and biology (Los Alamos, NM, 1998). MR 2001j:92030
15. Farhad Shahrokhi, Ondrej Sýkora, László A. Székely, and Imrich Vrťo, *A new lower bound for the bipartite crossing number with applications*, Theoret. Comput. Sci. **245** (2000), 281–294, Algorithms for future technologies (Saarbrücken, 1997). MR 2001i:05064
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The Publications of Vladimir Temlyakov

Monograph

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82. _____, *Best bilinear approximation and connected questions*, Constructive Theory of Functions (Varna, 1987), Publ. House Bulgar. Acad. Sci., Sofia, 1988, pp. 448–454. 994 874

83. _____, *Best bilinear approximations of periodic functions of several variables*, Dokl. Akad. Nauk SSSR **286** (1986), 301–304. 823 389 (Russian)

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Professional Employment

Permanent Positions

1997–present	Associate Professor	University of South Carolina, Columbia, SC
1996–1997	Senior Scientist	Institute of Mathematics, Bulgarian Academy of Sciences
1989–1995	Scientist	Institute of Mathematics, Bulgarian Academy of Sciences

Visiting Positions

1994–1995	Visiting Professor	University of South Carolina, Columbia, SC
Fall 1993	Post-Doctoral Fellow	University of Wales
Spring 1993	Visiting Professor	University of South Carolina, Columbia, SC
Spring 1992	Visiting Professor	University of South Florida
Fall 1990	Visiting Professor	University of South Florida

Honors and Awards

1991 Distinguished Award of the Hardy-Ramanujan Society

Publications: 14 articles in print and 1 submitted.

Invited Addresses and Seminars: 3 conference addresses.

Doctoral Students:

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Editing, Refereeing, and Reviewing: Referee for 3 mathematical journals or conference proceedings; reviewer for Mathematical Reviews; proposal reviewer for NSF.

Conference Organizing or Program Committees: 1 regional conference (co-chair) and 1 special session for the American Mathematical Society.

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The Publications of Ognian Trifonov

1. Ognian Trifonov, *Lattice points close to a smooth curve and squarefull numbers in short intervals*, J. London Math. Soc. (2) **65** (2002), 303–319. MR 2002k:11115
2. A. Borisov, M. Filaseta, T. Y. Lam, and O. Trifonov, *Classes of polynomials having only one non-cyclotomic irreducible factor*, Acta Arith. **90** (1999), 121–153. MR 2000k:11117
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6. M. N. Huxley and O. Trifonov, *The square-full numbers in an interval*, Math. Proc. Cambridge Philos. Soc. **119** (1996), 201–208. MR 96k:11114
7. Michael Filaseta and Ognian Trifonov, *The distribution of squarefull numbers in short intervals*, Acta Arith. **67** (1994), 323–333. MR 95k:11116
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13. O. Trifonov, *On the number of the lattice points in some two-dimensional domains*, C. R. Acad. Bulgare Sci. **41** (1988), 25–27. MR 90e:11145
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Shandong Univeristy, China
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B.S. 1981 in Mathematics

Professional Employment

1998 – present	Associate Professor	University of South Carolina, Columbia SC
1993 – 98	Assistant Professor	University of South Carolina, Columbia SC
1992 – 93	Postdoctoral Assistant Professor	Texas A&M University, College Station TX

Awards and Honors

2002, 1996	Appointed by the Dean of the Faculty of Natural Sciences at the University of Bergen (Norway) as the first opponent for the defense of Dr. Scient. degree,
1999	Award Certificate for the commitment to the development of students at the USC, Department of Student Life and the Division of Student & Alumni Services,
1991–92	NAVF Postdoctoral Research Fellow (of Norwegian Research Council), University of Bergen
1988	Second Scientific and Technological Progress Award on "The Research on Finite Element Methods and Their Applications to Engineering Problems", by the State Education Ministry of China

Member, Editorial Boards:
Numerical Methods for Partial Differential Equations
Journal of Korean Society of Industrial and Applied Mathematics

Refereed Research Publications: 81 in print and additional 6 in press

Conference Presentations, Colloquium and Seminar Talks: 3 plenary talks, 29 invited talks, 10 contributed talks, 13 colloquium talks, and 19 seminar presentations

Research Supervision:
Postdoctoral associates: 5 completed;
PhD Students: 2 completed and 3 ongoing;
Master Students: 7 completed and 2 ongoing

Grant Support: PI for grants from Mobil Technology Company, ExxonMobil Upstream Research Company, and Committee of Higher Education of South Carolina; Co-PI and Investigator for several grants from NSF, ONR, ARPA/DEPSCoR

Conference Organization: Serve as minisymposium organizer and session chair for 10 domestic and international conferences.

Refereeing and Reviewing: Regularly refereeing papers for many prestigious mathematical and engineering journals; Reviewing proposals for NSF

The Publications of Hong Wang

Publications in Print

1. H. Wang, An optimal-order error estimate for MMOC and MMOCAA schemes for multidimensional advection-reaction equations, *Numerical Methods for PDEs*, **18**, (2002), 69–84.

2. M. Al-Lawatia and H. Wang, A family of higher-order Eulerian-Lagrangian localized adjoint methods for advection-diffusion equations. Z. Chen and R.E. Ewing (eds.), *Contemporary Mathematics*, **295**, American Mathematical Society, Rhode Island, 2002, 25–36.

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4. H. Wang, W. Zhao, R.E. Ewing, S.L. Lyons, and G. Qin, An ELLAM simulator for highly compressible flow in porous media with multiple wells. Z. Chen and R.E. Ewing (eds.), *Contemporary Mathematics*, **295**, American Mathematical Society, Rhode Island, 2002, 481–488.

5. H. Wang and W. Zhao, A modified alternating-direction finite volume method for the modeling of secondary hydrocarbon migration and accumulation processes. S.M. Hassanizadeh, R.J. Schotting, W.G. Gray, and G.F. Pinder (eds.) *Computational Methods in Water Resources XIV*, Developments in Water Science, **47**, Elsevier, Amsterdam, 2002, 987–994.

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9. M. Al-Lawatia, H. Wang, R.C. Sharpley, A parallel characteristic method for first-order hyperbolic equations, *Journal of the Faculty of Science, UAE University*, **12(B)**, (2002), 1–13.

10. H. Wang, X. Shi and R.E. Ewing, An ELLAM scheme for multi-dimensional advection-reaction equations and its optimal-order error estimate, *SIAM. J. Numer. Anal.*, **38**, (2001), 1846–1885.

11. H. Wang and J. Liu, Development of CFL-free, explicit schemes for multidimensional advection-reaction equations, *SIAM J. Sci. Comput.*, **23**, (2001), 1418–1438.

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16. H. Wang, D. Liang, R.E. Ewing, S.L. Lyons, and G. Qin, An ELLAM-MFEM solution technique for compressible fluid flows in porous media with point sources and sinks, *J. Comput. Phys.*, **159**, (2000), 344–376.

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24. H. Wang, D. Liang, R.E. Ewing, S.L. Lyons, and G. Qin, An accurate simulator to compressible flow in porous media with wells, L.R. Bentley, J.F. Sykes, C.A. Brebbia, W.G. Gray, and G.F. Pinder (eds.) *Computational Methods in Water Resources XIII*, Balkema, Rotterdam, 2000, 623–629.

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38. J.E. Våg, H. Wang, and H.K. Dahle, Eulerian-Lagrangian localized adjoint methods for systems of nonlinear advective-diffusive-reactive equations. *Advances in Water Resources,* **19**, (1996), 297–315.

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41. H. Wang, R.C. Sharpley, and S. Man, An ELLAM scheme for advection-diffusion equations in multi-dimensions. Aldama *et al.* (eds.) *Computational Methods in Water Resources XI,* **2**, Computational Mechanics Publications, Southampton and Boston, (1996), 99–106.

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45. T. Lin and H. Wang, Recovering the gradients of the solutions of second-order hyperbolic equations by interpolating the finite element solutions. *Journal of Computational Acoustics* **3**, (1995), 27–56.

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