

TAVAN T. TRENT

CURRICULUM VITAE

ADDRESS

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Department of Mathematics
University of Alabama
Tuscaloosa, AL 35487-0350

EDUCATION

B.S. (Honors) University of North Carolina, Chapel Hill, 1972, Phi Beta Kappa,
Archibald Henderson Mathematics Medal, 1972

Ph.D. University of Virginia, May 1977

EMPLOYMENT

1977-1979 Instructor, Department of Mathematics, University of North Carolina at
Chapel Hill.

1979-1982 Assistant Professor, Department of Mathematics, University of Alabama.

1982-1986 Associate Professor, Department of Mathematics, University of Alabama.

1984-1985 Visiting Professor, Department of Mathematics, Indiana University

1987- Professor, Department of Mathematics, University of Alabama

1988 Visiting Scholar, Indiana University

1995 Visiting Professor, M.S.R.I.

GRANTS AND AWARDS

Research Grants Committee Award, University of Alabama, 1980 and 1982.

National Science Foundation Grant MCS-8404091, May 1984 - May 1985.

National Science NATO Foundation Travel Grant, July 1984.

National Science Foundation Grant DMS-8404091, May 1985 - May 1986.

Travel Money on National Science Foundation Grant DMS-8603178, May 1986 - May 1987.

Research Grants Committee Award, University of Alabama, 1989.

EPSCoR Travel Grant, 1992-1993.

EPSCoR Travel Grant, 1993-1994.

NSF Grant, DMS-0100294, June 2001-May 2004.

NSF Grant, DMS-0400307, June 2004-May 2007.

ADDRESSES

Invited Lecture for a special session of AMS on Function Theoretic Operator Theory, Louisville, January 1984.

Invited lecture at NATO Advanced Study Institute on Operators and Function Theory, University of Lancaster, England, July 1984.

Colloquium, Indiana University, January 1985.

Distinguished Visiting Professor, Bucknell University, February 4-8, 1985.

Colloquium, I.U.P.U.I., March 1985.

Lecture at Annual Lecture Series in mathematical Sciences: Applications of Harmonic Measure, University of Arkansas, April 1985.

Colloquium, U.N.C. at Charlotte, November 1985.

Lecture at 2nd Annual Southeast Analysis Meeting, University of North Carolina, April 1986.

Lecture at the Canadian Symposium on Operator Theory, University of Victoria, August 1986.

Invited lecture at the Operator Theory special session of the Charlotte Mathematical Conference, October 1986.

Lecture at Operator Theory and Systems Theory Conference in Phoenix, AZ.

Lecture at Harmonic Analysis Miniconference at Auburn, 1987.

Lecture at 4th Annual Southeast Analysis Meeting, University of Virginia, 1988.

Invited lecture at the AMS Summer Research Institute on Operator Theory, University of New Hampshire, July 1988.

Invited address at the Extramural Functional Analysis Seminar at Wabash, Indiana, October 1988.

Lecture at 5th Annual Southeast Analysis Meeting, University of Georgia, 1989.

Invited lecture at NSF-CBMS Conference on Singular Integral Operators, University of Montana, August 1989.

Invited lecture at the Singular Integral Theory special session of the AMS regional meeting at U. of Arkansas, March 1990.

Colloquium, Auburn University, April 1990.

Colloquium, Mississippi State University, November 1990.

Lecture at 7th Annual Southeastern Analysis Meeting, UNCC, April 1991.

Lecture at Great Plains Operator Theory Symposium at Texas A&M, May 1991.

Invited lecture at the Operator Theory and Operator Algebras special session of the AMS regional meeting at Wright State University, October 1992.

Invited lecture at the Holomorphic Spaces special session of the AMS national meeting, San Antonio, January 1993.

Invited lecture at the Non-Selfadjoint Operator algebra special session of the AMS regional meeting at Texas A&M University, October 1993.

Invited Address, Holomorphic Spaces Conference, M.S.R.I. 1995.

Invited series of three lectures at the 8th International Workshop of the Topology and Geometry Center held at Kyungpook National University, Korea, July, 1997.

Invited address at the Harmonic Analysis special session of the AMS regional meeting at the University of Wisconsin at Milwaukee, October, 1997.

Co-organizer (with Z. J. Wu) of the Operator Theory and Holomorphic Spaces special session of the AMS regional meeting at Wake Forest University, October, 1998.

Invited address at the Banach Spaces of Holomorphic Functions and Operators on These Spaces special session of the AMS national meeting in San Antonio, January, 1999.

Invited series of two lectures at the 1999 KOTAC International Workshop on Operator Theory and its Applications held at Taegu University, Korea, June, 1999.

Invited hour lecture at the YAMS conference held at Furman University from July 5- July 10, 1999.

Invited lecture at the Complex Variables special session of the AMS regional meeting in Salt Lake City, September, 1999.

Colloquium, University of Virginia, October, 1999.

Invited address at the Operator theory, systems theory, and interpolation in several complex variables special session of the AMS national meeting in Washington, D.C., January, 1999.

Invited lecture at the Operator Algebras and their Representations special session of the AMS regional meeting in Birmingham, AL, November, 2000.

Invited lecture at the Operators and Function Theory on Holomorphic Spaces special session at the AMS regional meeting in Birmingham, AL, November, 2000.

Invited lecture at the Operator Theory on Function Spaces special session of the AMS national meeting in New Orleans, LA, January 2001.

Lecture at the 17th Annual Southeastern Analysis Meeting, University of Georgia, 2001.

Invited hour talk at the 18th Annual Southeastern Analysis Meeting, University of North Carolina, 2002.

Invited hour main lecture at the Great Plains Operator Theory Symposium, University of North Carolina-Charlotte, 2002.

Invited talk in minisymposium on Matrix Extensions and Interpolation, Tenth ILAS Conference—Challenges in Matrix Theory, Auburn University, 2002.

Invited hour main lecture at IWOTA 2002—13th International Workshop on Operator Theory and Applications, Virginia Tech, 2002.

Invited hour main lecture at the West Coast Operator Algebras Symposium, University of Colorado, 2002.

Lecture at the Southeastern Analysis Meeting, University of Tennessee, 2003.

Colloquium, University of North Carolina at Charlotte, 2003.

Invited lecture at the Operator Theory and Function Spaces special session of the AMS regional meeting in Nashville, TN, October 2004.

Lecture at the 21st Southeastern Analysis Meeting, Washington and Lee University, Lexington, VA, April 2005.

Lecture at the 16th International Workshop on Operator Theory and Applications, University of Connecticut, July 2005.

Colloquium, Vanderbilt University, December 2005.

PUBLICATIONS

1. Growth near the boundary in $H^2(\mu)$ spaces (with Thomas Kriete), Proc. Amer. Math. Soc., 62 (1977), 83-88.
2. $H^2(\mu)$ spaces and bounded point evaluations, Pac. J. of Math., 80 (1979), 279-292.
3. Extension of a theorem of Szego, Michigan Math. J., 26 (1979), 373-377.
4. New conditions for subnormality, Pac. J. of Math., 93 (1981), 459-464.
5. Uniform approximation by rational modules on nowhere dense sets (with James L. Wang), Proc Amer. Math. Soc., 81 (1981), 62-64.
6. The uniform closure of rational modules (with James L. Wang), Bull, London Math. Soc., 13 (1981), 415-420.
7. A note on intertwining M-hyponormal operators (with R.L. Moore and D.D. Rogers), Proc. Amer. Math. Soc., 83 (1981), 514-516.
8. A Muntz-Szasz theorem for $C(D)$, Proc. Amer. Math. Soc., 83 (1981) 296-298.
9. A strict maximum modulus theorem for certain Banach spaces (with R.L. Moore), Mh. Math., 92 (1981), 197-201.
10. Meromorphic functions of operators, Acta Sci. Math. (Szeged), 46 (1983), 173-176.
11. Carleson measure inequalities and kernel functions in $H^2(\mu)$, Journal of Operator Theory, 11 (1984), 157-169.
12. $P^2(\mu)$ and bounded point evaluations (with James L. Wang), Proc. Amer. Math. Soc., 91 (1984), 421-425.
13. A separating problem on function spaces (with Y.S. Chow and J.L. Wang), Journal of Math. Anal. and Appl., 111 (1985), 177-187.
14. A characterization of $P^2(\mu) \neq L^2(\mu)$, J. Func. Anal., 64 (1985), 163-177.
15. Invariant subspaces for operators in subalgebras of $L^\infty(\mu)$, Proc. Amer. Math. Soc., 99 (1987), 268-272.
16. Extreme points of reflexive algebras (with R.L. Moore), Ind. Univ. Math. J., 36 (1987), 645-650.

17. A measure inequality, preprint.
18. Isometries of nest algebras (with R.L. Moore), J. Func. Anal., 86 (1989), 180-209.
19. Subnormal operators with finite rank self-commutators, (with R. Olin and J. Thomson), to appear TAMS.
20. Invariant subspaces of finite codimension for measures with thin support, Proc. Amer. Math. Soc., 109 (1990), 369-374.
21. Sufficient conditions for bounded point evaluations, Integral Equa. and Operator Theory, 13 (1990), 593-606.
22. Subnormal operators with a common invariant subspace (with W. Wogen), Proc. of Symp. in Pure Math., 51 (1990), 343-344.
23. Isometries of certain reflexive operator algebras (with R.L. Moore), Proc. of Symp. in Pure Math, 51 (1990), 219-220.
24. Isometries of certain reflexive operator algebras (with R.L. Moore), J. Func. Anal., 98 (1991), 437-471.
25. Interpolation problems for ideals in certain reflexive operator algebras (with M. Anoussis, E.G. Katsoulis, and R.L. Moore), Math. Proc. Cam. Phil. Soc., 111 (1992), 151-160.
26. Interpolation in nest algebras and applications to operator corona theorems (with E.G. Katsoulis and R.L. Moore), J. Operator Theory 29 (1993), 115-123.
27. Interpolation problems for Hilbert-Schmidt operators in reflexive algebras (with M. Amousis, E. Katsoulis, and R.L. Moore), Houston J. Math. 19 (1993), 63-73.
28. Solving Operator Equations in Nest Algebras (with R.L. Moore), Houston J. Math. 24 (1998), 483-488.
29. Factoring along commutative subspace lattices, (with R.L. Moore), Integral Equa. Operator Theory, 25 (1996), 224-234.
30. Factoring positive operators on reproducing Kernel Hilbert spaces (with R.L. Moore), Integral Equa. Operator Theory, 24 (1996), 470-483.
31. Interpolation in Inflated Hilbert Spaces (with R. Moore), Proc. Amer. Math. Soc, 127 (1999), 499-508.
32. Function theory problems and operator theory, Proceedings of the Topology and Geometry Research Center, TGRC-KOSEF, Vol. 8, Dec. 1997.
33. Unitary colligations, reproducing Kernel Hilbert spaces, and Nevanlinna-Pick interpolation in several variables (with J. Ball), J. Func. Anal., 157 (1998), 1-61.

34. The abstract interpolation problem and commutant lifting: a coordinate free approach (with J. Ball). *Operator Theory: Advances and Applications*, Vol. 115 Birkhauser Verlag, p. 51-83 (2000)
35. A commutant lifting theorem on the polydisc (with J. Ball, W.S. Li, and D. Timotin), *Indiana University J. Math.*, 48 (1999), 653-675.
36. Interpolation and commutant lifting for Multipliers on Reproducing Kernel Hilbert spaces, (with J. Ball and V. Vinnikov) *Operator Theory: Advances and Applications*, Vol. 122 (2001), 89-138.
37. Linear Equations in subspaces of operators (with R.L. Moore) *Proc. Amer. Math. Soc.* 128 (2000), 781-788.
38. Commutant lifting theorems, *Proceedings of the Topology and Geometry Research Center, TGRC – KOSEF*, (1999)
39. Invariant subspaces and Nevanlinna-Pick Kernels (with S. McCullough), *J. Func. Anal.*, 178 (2000), 226-249.
40. A new estimate for the vector valued corona problem, *J.Func.Anal.* 189 (2002), 267-282
41. Interpolation in self-adjoint settings (with Y.S. Jo, J.H. Kang, and R.L. Moore), *Proc. Amer. Soc.* 130, No. 11 (2002), 3269-3281.
42. A corona theorem for multipliers on Dirichlet space, *Integral Equations and Operator Theory*, 49 (2004), 123-139.
43. An H^2 corona theorem on the bidisk for infinitely many functions, *Linear Algebra and its Applications—Proceedings of the Tenth ILAS Conference* 379 (2004), 213-227.
44. Corona theorems and operator theory, *Linear Algebra and its Applications* 379 (2004), 530-532.
45. Operator theory and the corona problem on the bidisk, *Operator Theory: Advances and Applications*, 149 (2004), 553-568.
46. Maximal invariant subspaces for $A^2_\alpha(D)$, *Proceedings of the American Mathematical Society*, 132 (2004), 2429-2432.
47. An estimate for ideals in $H^\infty(D)$, *Integral Equations and Operator Theory*, 53 (2005), 573-587..
48. A vector-valued \mathcal{H}^p corona theorem on the polydisk, *Integral Equations and Operator Theory*, 56(2006), 129-149.

49. A matricial corona theorem (with X. Zhang), Proceedings of the American Mathematical Society, 134(2006), 2549-2558.
50. A matricial corona theorem II (with X. Zhang), Proceedings of the American Mathematical Society, to appear.
51. Solutions for the $H^\infty(D^n)$ corona problem belonging to $\exp(L^{1/2n-1})$, Integral Equations and Operator Theory, to appear.