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PERSONAL

Born: May 9, 1959 in Pittsburgh, Pennsylvania.

EDUCATION

Ph.D. in Mathematics, The University of North Texas, Denton, Texas, 1987. Dissertation, *Invertible ideals and the strong two-generator property in some polynomial subrings*, directed by Dr. N. H. Vaughan.

M.S. in Mathematics, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, 1984. Master's project, *Algebraic Number Theory in $\mathbf{Q}[\sqrt{-5}]$* , directed by Dr. W. W. Smith.

B.S. (cum laude) in Mathematics and Politics, Wake Forest University, Winston-Salem, North Carolina, 1981. Senior honors paper in Mathematics, *Polya's Theory of Counting*, directed by Dr. F. T. Howard.

POSITIONS HELD

Professor, Trinity University, 1999- .

Associate Professor, Trinity University, 1993-1999.

Assistant Professor, Trinity University, 1987-1993.

Teaching Fellow, The University of North Texas, 1984-1987.

Research Assistant under the direction of Dr. R. D. Mauldin, The University of North Texas, 1985-1987.

Graduate Teaching Assistant, The University of North Carolina at Chapel Hill, 1981-1984.

Research Assistant under the direction of Dr. W.W. Smith, The University of North Carolina at Chapel Hill, Summer 1982.

Summer Intern, Office of Governor James B. Hunt, Jr. of the State of North Carolina, Summer 1981.

Teaching Assistant under the direction of Dr. F.T. Howard at Wake Forest University, Fall 1980.

HONORS

Educational Grant, Baldwin-Whitehall Education Association, 1977.

National Academic Grant, Alpha Sigma Phi Fraternity, 1980-1981.

President, Treasurer, and Secretary, Alpha Sigma Phi Fraternity, Beta Mu Chapter, Wake Forest University, 1977-1981.

Graduated with departmental honors in Mathematics, Wake Forest University, 1981.

President, Graduate Mathematics Association, The University of North Carolina at Chapel Hill, 1983.

Elected to the honor society of Phi Kappa Phi, The University of North Texas, 1986.

Summer Teaching Assistant/Research Assistant Scholarship, The University of North Texas, Summer 1986.

Outstanding Teaching Assistant/Teaching Fellow, The University of North Texas, 1987.

John M. Bennett Fellow, Trinity University, 1987-1990.

Nominated for a National Science Foundation Presidential Young Investigator Award, 1988.

Named an Outstanding Centennial Alumnus of the College of Arts and Sciences at the University of North Texas, April 1990.

J. William Fulbright Research Scholar, 1995.

Trinity University Award for Distinguished Scholarship or Research, 2002-2003.

PROFESSIONAL ORGANIZATIONS

American Mathematical Society, 1981-present.

Mathematical Association of America, 1985-present.

Fulbright Association, 1995-present.

PAPERS PRESENTED

- Meetings of the American Mathematical Society
 - 830th meeting, Denton, Texas, October 1986.
 - 831st meeting, San Antonio, Texas, January 1987.
 - 839th meeting, Atlanta, Georgia, January 1988.
 - 847th meeting, Phoenix, Arizona, January 1989.
 - 854th meeting, Louisville, Kentucky, January 1990.

861st meeting, Denton, Texas, November 1990 (special session on commutative algebra)
 863rd meeting, San Francisco, California, January 1991.
 871st meeting, Baltimore, Maryland, January 1992.
 878th meeting, San Antonio, Texas, January 1993 (special session on commutative algebra).
 879th meeting, Knoxville, Tennessee, March 1993 (special session on commutative algebra).
 909th meeting, Iowa City, Iowa, March 1996 (special session on commutative algebra).
 915th meeting, Chattanooga, Tennessee, October 1996 (special session on commutative algebra).
 936th meeting, Winston-Salem, North Carolina, October 1998 (special session on commutative algebra).
 949th meeting, Charlotte, North Carolina, October 1999 (special session on commutative algebra).
 970th meeting, Chattanooga, Tennessee, October 2001 (special session on commutative algebra).
 977th meeting, Pisa, Italy, June 2002 (special session on commutative rings and integer-valued polynomials).
 984th meeting, Baton Rouge, Louisiana, March 2003 (special session on commutative ring theory).

- Meetings of the Mathematical Association of America
 - Texas Section, Eastfield College, Dallas, Texas, April 1986.
 - Texas Section, Tarleton State University, Stephenville, Texas, April 1987.
 - Texas Section, Trinity University, San Antonio, Texas, April 1988.
 - Texas Section, Texas Lutheran College, Seguin, Texas, April 1989.
- 1994 John H. Barrett Memorial Lectures, Commutative Algebra Mini-Conference, The University of Tennessee at Knoxville, April 1994.
- 1996 Factorization in Integral Domains, Commutative Algebra Mini-Conference, The University of Iowa, Iowa City, Iowa, March 1996.
- Algebra Meeting, Faculté des Sciences de Saint-Jérôme, Marseille, France, June 1997.
- Commutative Algebra Workshop, Università degli Studi, Roma Tre, Rome, Italy, June 1999.
- Commutative Algebra Conference in honor of James A. Huckaba, The University of Missouri, Columbia, Missouri, December 1999.
- Second International Encounter on Integer-Valued Polynomials, CIRM (Luminy, France), May-June 2000.
- Algebra Conference Venezia 2002, Venice, Italy, June 2002.

SELECTED COLLOQUIA

Università degli Studi di Roma “LA SAPIENZA”, Rome, Italy, May 1990, June 1990, and June 1991.
 Karl-Franzens-Universität Graz, Institut für Mathematik, Graz, Austria, June 1990, April 1995, July 1996 and February 2000.
 The University of Tennessee, Knoxville, Tennessee, January 1991 and May 1992.

Universität Bremen, Mathematisches Kolloquium, Bremen, Germany, June 1991, June 1995 and June 1996.

Florida State University, Tallahassee, Florida, March 1994.

The University of California at Riverside, August 1994.

The University of North Texas, December 1994.

Terza Università degli Studi di Roma, Rome, Italy, February 1995 and March 1995.

Saint-Jérôme Université d'Aix-Marseille III, Marseille, France, March 1995.

Wake Forest University, Winston-Salem, North Carolina, October 1996.

Allegheny College, Meadville, Pennsylvania, November 1999.

Universidad de Granada, Granada, Spain, March 2000.

Loyola Marymount University, Los Angeles, California, March 2001.

Texas Christian University, Fort Worth, Texas, January 2002.

St. Mary's University, San Antonio, Texas, February 2002.

University of Texas-Pan American, Edinburg, Texas, February 2002.

University of Texas at San Antonio, San Antonio, Texas, November 2002.

Claremont Colleges, Claremont, California, February 2003.

University of North Carolina at Greensboro, Greensboro, North Carolina, March 2003.

GRANTS AND FELLOWSHIPS

John M. Bennett Junior Faculty Fellowship at Trinity University, Summers of 1988, 1989, and 1990.

Summer Stipend Grants from the Trinity University Faculty Development Committee, Summer 1991, Summer 1997 and Summer 2002.

Fellowship for Foreign Mathematicians for study at Terza Università degli Studi di Roma from the Consiglio Nazionale delle Ricerche (CNR), December 1994 - April 1995.

J. William Fulbright Senior Foreign Research Scholarship for study at Karl-Franzens Universität, Graz, Austria, April 1995 - June 1995.

Fellowship for a Study Visit to Universität Bremen from Deutscher Akademischer Austauschdienst (DAAD), June 1996 - July 1996.

Co-Principal Investigator on National Science Foundation Research Experience for Undergraduates grant "Undergraduate Research Experiences in Mathematics" (DMS-0100291) at Trinity University, Summer 1997–Summer 1999.

Principal Investigator on National Science Foundation Research Experience for Undergraduates grant "Undergraduate Research Experiences in Mathematics" (DMS-0097366) at Trinity University, Summer 2001–Summer 2003.

Awarded Supplement to the grant “Research Experience for Undergraduates in Mathematics,” funded by the National Science Foundation (DMS-0303687) to add an international component to the program at the Institute für Mathematik in Graz, Austria for the summer of 2003.

Principal Investigator on National Science Foundation Research Experience for Undergraduates grant “Research Experiences for Undergraduates in Mathematics” (final approval pending) at Trinity University, Summer 2004–Summer 2006.

OTHER PROFESSIONAL ACTIVITIES

Associate Editor for the *International Journal of Commutative Rings*.

Author for *Mathematical Reviews*.

Referee for *American Mathematical Monthly*, *Arabian Journal of Science and Engineering*, *Bulletin of the Greek Mathematical Society*, *Communications in Algebra*, *Discrete Mathematics*, *Houston Journal of Mathematics*, *Ideal Theoretic Methods in Commutative Algebra*, *Journal of Algebra*, *Journal of Natural Sciences and Mathematics*, *Journal of Number Theory*, *Journal of the London Mathematical Society*, *Journal of Symbolic Computation*, *Pacific Journal of Mathematics*, *Proceedings of the Algebra Conference Venezia 2002*, *Proceedings of the Fes Conference in Commutative Ring Theory* (1993, 1995, 1996, 1998), *Proceedings of the Tenth International Conference on Fibonacci Numbers and Their Application*, *Rocky Mountain Journal of Mathematics*, the National Science Foundation, and the National Security Agency.

Chaired AMS contributed papers session on Number Theory, Rings, and Algebras at the 854th meeting of the AMS in Louisville, Kentucky, January 1990.

Co-chaired and co-organized special session on Commutative Algebra at the 861st meeting of the AMS in Denton, Texas, November 1990.

Chaired AMS contributed papers session on Commutative Algebra at the 871st meeting of the AMS in Baltimore, Maryland, January 1992.

Chaired and organized special session on Commutative Algebra at the 878th meeting of the AMS in San Antonio, Texas, January 1993.

Co-chaired and co-organized special session on Commutative Algebra at the 928th meeting of the AMS in Albuquerque, New Mexico, November 1997.

Chaired and organized special session on Commutative Algebra at the 939th meeting of the AMS in San Antonio, Texas, January 1999.

Co-chaired and co-organized special session on Commutative Rings and Monoids at the 962nd meeting of the AMS in New Orleans, Louisiana, January 2001.

Chaired and organized special session on Commutative Rings and Monoids at the 991st meeting of the AMS in Chapel Hill, North Carolina, October 2003.

Reader for the AP Calculus Exam, June 1992, June 1993, June 1994 and June 1997.

Judge, MAA Sponsored Undergraduate Poster Session at the Annual Meeting of the AMS-MAA, Baltimore, January 2003.

Textbook reviewer for Harper and Row, Prentice Hall, McGraw-Hill, Brooks/Cole, and John Wiley and Sons.

UNIVERSITY SERVICE

Chairman, Athletic Department Self-Study for 1997 Southern Association of Colleges Accreditation.

Member, University Steering Committee for 1997 Southern Association of Colleges Accreditation.

Trinity University Faculty Representative to the National Collegiate Athletic Association, 1990 - 1999.

Elected to Executive Committee of the Faculty Athletics Representatives Association (1994 - 1996).

Chairman, University Athletic Council, 1989 - 1990, 1997-1998.

Chairman, Head Football Coach Search Committee, 1990.

Elected to Trinity University Faculty Senate, 1990.

Member of Search Committees for Faculty appointments in Mathematics (1989, 1990, 1997, 1999, 2000, 2002), Engineering (1989), and Chemistry (2000).

Also member of Search Committees for the appointment of the Head Men's Basketball Coach (1989), Head Men's Soccer Coach (1991), and Athletic Director (1993).

UNDERGRADUATE RESEARCH PROJECTS DIRECTED

Trinity University Honors Theses in Mathematics.

- William Thill, *On the Davenport Constant and Cross Number of a Finite Abelian Group*, 1994.
- Andrew Crabbe, *Generalized Factorial Functions and Binomial Coefficients*, 2001.
- Barbara McClain, *Factorization Properties of Integer-Valued Polynomials*, in progress, 2004.

Trinity University Research Experience for Undergraduates in Mathematics Program.

- Kala Schragar (University of Oregon), *Equivalence Classes of Minimal Zero-Sequences*, 1997.
- Jeremy Herr (University of Oklahoma) and Natalie Rooney (University of Texas at Austin), *A Factorization Formula for Class Number Two*, 1998.
- Victor DeLorenzo (Grove City College) and Holly Swisher (University of Oregon), *On the Asymptotic Behavior of Irreducibles in Block Semigroups*, 1999.
- Paul Baginski (Carnegie Mellon University), Kathryn McDonald (University of Oregon) and Lara Pudwell (Valparaiso University), *On Cross Numbers of Minimal Zero-Sequences in Certain Cyclic Groups*, 2001.
- Matt Holden (Pomona College) and Terri Moore (University of Washington), *Asymptotic Elasticity and the Full Elasticity Property in Atomic Monoids*, 2002.
- Melissa Banister (Harvey Mudd College), Jonathan Chaika (University of Iowa) and William Meyerson (Harvard University), *On the Arithmetic of Congruence Monoids*, 2003.
- Therese-Marie Landry (Brown University), *Delta Sets in the Block Monoid $\mathcal{B}((\mathbb{Z}_2)^4)$* , 2003.

REFEREED PUBLICATIONS

(*Asterisks denote undergraduate co-authors)

- [1] "Integer-valued polynomials and almost division algorithms," *J. Nat. Sci. Math.* **28**(1988), 239-256.

- [2] "On a characterization of algebraic number fields of class number less than three," (with W.W. Smith) *J. Algebra* **135**(1990), 361-366.
- [3] "Factorization in Dedekind domains with finite class group," (with W.W. Smith) *Israel J. Math.* **71**(1990), 65-95.
- [4] "Characterizing strong two-generators in $K[x^2, x^3]$," *Houston J. Math.* **16**(1990), 217-229.
- [5] "A Theorem on generating ideals in certain semigroup rings," (with N. Vaughan) *Boll. U.M.I.* **5-A**(1991), 41-49.
- [6] "On the HFD, CHFD, and k-HFD properties in Dedekind domains," (with W.W. Smith) *Comm. Algebra* **20**(1992), 1955-1987.
- [7] "A simple example of non-unique factorization in integral domains," *Amer. Math. Monthly* **99**(1992), 943-945.
- [8] "On the k-HFD property in Dedekind domains with small class group," (with W.W. Smith) *Mathematika* **39**(1992), 330-340.
- [9] "Rational elasticity of factorizations in Krull domains," (with D.D. Anderson, D.F. Anderson, and W.W. Smith) *Proc. Amer. Math. Soc.* **117**(1993), 37-43.
- [10] "On the lengths of factorizations of elements in an algebraic number ring," (with W.W. Smith) *J. Number Theory* **43**(1993), 24-30.
- [11] "An analysis using the Zaks-Skula constant of element factorizations in Dedekind domains," (with W.W. Smith) *J. Algebra* **159**(1993), 176-190.
- [12] "Factorization in $K[x^2, x^3]$," (with D.F. Anderson, F. Inman*, and W.W. Smith) *Arch. Math. (Basel)* **61**(1993), 521-528.
- [13] "Some factorization properties of Krull domains with infinite cyclic divisor class group," (with D.F. Anderson and W.W. Smith) *J. Pure Appl. Algebra* **96**(1994), 97-112.
- [14] "Overrings of half-factorial domains," (with D.F. Anderson and W.W. Smith) *Can. Math. Bull.* **37**(1994), 437-442.
- [15] "On Krull half-factorial domains with infinite cyclic divisor class group," (with D.F. Anderson and W.W. Smith) *Houston J. Math.* **20**(1994), 561-570.
- [16] "Some factorization properties of the ring of integer-valued polynomials," (with D.F. Anderson, P-J. Cahen and W.W. Smith) *Lecture Notes in Pure and Applied Mathematics*, Marcel Dekker, **171**(1995), 125-142.
- [17] "On the Davenport constant, the cross number, and their application to factorization theory," *Lecture Notes in Pure and Applied Mathematics*, Marcel Dekker, **171**(1995), 167-190.
- [18] "Overrings of half-factorial domains, II," (with D.F. Anderson and W.W. Smith) *Comm. Algebra* **23**(1995), 3961-3976.
- [19] "Factorization sets and half-factorial sets in integral domains," (with D.F. Anderson and W.W. Smith) *J. Algebra* **178**(1995), 92-121.
- [20] "Finite cyclic groups and the k-HFD property," (with W.W. Smith) *Colloq. Math.* **70**(1996), 219-226.

- [21] “On a generalization of a theorem of Zaks and Skula,” (with W. Thill*) *Proc. Royal Irish Aca.* **96A**(1996), 79-83.
- [22] “On cross numbers of minimal zero sequences,” (with A. Geroldinger) *Australasian J. Comb.* **14**(1996), 85-92.
- [23] “Two classes of ideals determined by integer-valued polynomials,” (with P-J. Cahen, K. Roegner and W.W. Smith) *Rend. Mat. (Roma)* **16**(1996), 625-636.
- [24] “A basis for the ring of polynomials integer-valued on prime numbers,” (with J-L. Chabert and W.W. Smith) *Lecture Notes in Pure and Applied Mathematics*, Marcel Dekker, **189**(1997), 271-284.
- [25] “Krull domains and monoids, their sets of length and associated combinatorial problems,” (with A. Geroldinger) *Lecture Notes in Pure and Applied Mathematics*, Marcel Dekker, **189**(1997), 73-112.
- [26] “Algebraic properties of the ring of polynomials integer-valued on prime numbers,” (with J-L. Chabert and W.W. Smith) *Comm. Algebra* **25**(1997), 1945-1959.
- [27] “Generalized sets of length,” (with W.W. Smith) *J. Algebra* **200**(1998), 449-471.
- [28] “Integral domains with highly non-unique factorization,” (with D.D. Anderson and J. Kwak) *Results in Mathematics* **33**(1998), 22-29.
- [29] “Criteria for unique factorization,” (with D.D. Anderson, F. Halter-Koch, and M. Zafrullah) *J. Pure Appl. Algebra* **127**(1998), 205-218.
- [30] “Generators of maximal ideals in the ring of integer-valued polynomials,” (with W.W. Smith) *Rocky Mountain J. Math.* **28**(1998), 95-105.
- [31] “The Skolem property in rings of integer-valued polynomials,” (with J-L. Chabert and W.W. Smith) *Proc. Amer. Math. Soc.* **126**(1998), 3151-3159.
- [32] “Minimal zero-sequences and the strong Davenport constant,” (with M. Freeze and W.W. Smith) *Discrete Math.* **203**(1999), 271-277.
- [33] “A factorization formula for class number two,” (with J. Herr* and N. Rooney*) *J. Number Theory* **79**(1999), 58-66.
- [34] “On the elasticities of Krull domains with finite cyclic divisor class group,” (with D.F. Anderson) *Comm. Algebra* **28**(2000), 2543–2553.
- [35] “Monoids determined by a homogenous linear Diophantine equation and the half-factorial property” (with U. Krause and E. Oeljeklaus) *J. Pure Appl. Algebra* **151**(2000), 107–133.
- [36] “On generalized lengths of factorizations in Dedekind and Krull domains,” (with M. Freeze and W.W. Smith) *Non-Noetherian Commutative Ring Theory*, Kluwer Academic Publishers, 117–138.
- [37] “Half-factorial domains, a survey,” (with J. Coykendall) *Non-Noetherian Commutative Ring Theory*, Kluwer Academic Publishers, 97–116.
- [38] “100 Problems in commutative ring theory,” (with S. Glaz) *Non-Noetherian Commutative Ring Theory*, Kluwer Academic Publishers, 459–476.
- [39] “An arithmetical characterization of finite elementary 2-groups,” (with W.W. Smith) *Comm. Algebra* **29**(2001), 1249–1257.

- [40] “Equivalence classes of minimal zero-sequences modulo a prime,” (with M. Freeze and W.W. Smith) *Lecture Notes in Pure and Applied Mathematics* Marcel-Dekker, **220**(2001), 133–146.
- [41] “On the asymptotic behavior of irreducibles in block semigroups,” (with V. DeLorenzo* and H. Swisher*) *Semigroup Forum* **63**(2001), 34–48.
- [42] “Sets of lengths in $V + XB[X]$ domains,” (with N. Gonzalez and S. Pellerin) *Arabian J. Sci. Engrg.* **26**(2001), 69–82.
- [43] “Computing the elasticity of a Krull monoid,” (with J.I. García-García, P.A. García-Sánchez and J.C. Rosales) *Linear Algebra Appl.* **336**(2001), 201–210.
- [44] “The strong two-generator property in rings of integer-valued polynomials determined by finite sets,” (with A. Loper and W.W. Smith) *Arch. Math. (Basel)* **78**(2002), 372–377.
- [45] “On Davenport’s constant of finite abelian groups,” (with M. Freeze, W. D. Gao, and W. W. Smith) *Far East J. Math. Sci.* **5** (2002), no. 1, 47–54.
- [46] “On Diophantine monoids and their class groups,” (with U. Krause and E. Oeljeklaus) *Pacific J. Math.* **207**(2002), 125–147.
- [47] “Inside factorial monoids and integral domains,” (with F. Halter-Koch and U. Krause) *J. Algebra* **252**(2002), 350–375.
- [48] “On the number of factorizations of an element in an atomic monoid,” (with J.I. García-García, P.A. García-Sánchez and J.C. Rosales) *Adv. in Appl. Math.* **29**(2002), 438–453.
- [49] “On the asymptotic values of length functions in Krull and finitely generated commutative monoids,” (with J.C. Rosales) *J. Aust. Math. Soc.* **74**(2003), 421–436.
- [50] “On Factorization in Block Monoids formed by $\{\bar{1}, \bar{a}\}$ in \mathbb{Z}_n ,” (with W.W. Smith) *Proc. Edinburgh Math. Soc.* **46**(2003).
- [51] “Strongly two-generated ideals in rings of integer-valued polynomials determined by finite sets,” (with A. Loper and W. W. Smith) to appear in *C.R. Math. Rep. Acad. Sci. Canada*.
- [52] “On cross numbers of minimal zero sequences in certain cyclic groups,” (with P. Baginski*, K. McDonald* and L. Pudwell*) to appear in *Ars Combin.*
- [53] “On full elasticity in atomic monoids and integral domains,” (with M. Holden* and T. Moore*) to appear in *Rocky Mountain J. Math.*

PAPERS SUBMITTED OR IN PROGRESS

- [1] “On image sets of integer-valued polynomials,” (with V. Ponomarenko) in preparation.
- [2] “Elasticities of certain Block Monoids,” (with K. Kattchee and W. W. Smith) in preparation.
- [3] “Integer-valued polynomials and restricted elasticity,” (with W. W. Smith) in preparation.
- [4] “On the Arithmetic of Arithmetical Congruence Monoids,” (with M. Banister*, J. Chaika* and W. Meyerson*) in preparation.

BOOKS

- [1] *Non-Noetherian Commutative Ring Theory*, (edited with S. Glaz) Kluwer Academic Publishers, Boston, 2000.
- [2] *Arithmetical Properties of Commutative Rings and Monoids*, The Proceedings of the 2003 Chapel Hill Special Session, (edited) Marcel Dekker, to appear.

COURSES TAUGHT

- Remedial Mathematics
- Precalculus
- Mathematical Concepts
- Structure of the Number System, I and II
- Introduction to Logic
- Introduction to Probability and Statistics
- Introduction to Statistical Analysis
- Calculus I, II and III
- Linear Algebra
- Combinatorial Analysis
- Abstract Algebra I and II
- Sets, Relations, and Functions
- Introduction to the Theory of Numbers
- Differential Equations
- Foundations of Mathematics