

GREGORY P. DRESDEN
CURRICULUM VITAE

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EDUCATION

- 1993–97 Ph.D., Mathematics, University of Texas at Austin.
 Dissertation: “Spectra of Heights over Certain Finite Groups.”
 Thesis advisor: Dr. Jeffrey Vaaler.
- 1989–91, 92–93 M.A., Mathematics, University of Wisconsin at Madison.
- 1985–89 B.S., Mathematics, Stanford University.

EMPLOYMENT (Post Ph.D.)

- Jan–May 2009 Visiting Associate Professor, University of Georgia.
- 2003–present Associate Professor, Washington and Lee University.
- 1997–2003 Assistant Professor, Washington and Lee University.

TEACHING EXPERIENCE

Washington & Lee University

- Calculus, both standard and introductory.
- Multivariable Calculus, individual and team-taught.
- Vector Calculus, with self-designed **Maple** computer labs.
- Intro. Statistics, with sections on the odds of casino gambling.
- Mathematical Statistics, with sections on classic probability problems.
- Introduction to Cryptography, with field trips to view ENIGMA machine.
- Linear Algebra, with student-created video hints available on-line.
- Abstract Algebra, with section on ruler & compass constructions.
- Number Theory, with section on cryptography.
- History of Mathematics, with guest speakers from Classics & History.
- Actuarial Prep, covering calculus and statistics for actuary exams.
- Financial Mathematics, on the topic of financial derivatives.
- Independent Study classes on number theory (including summer research).
- Logic Puzzles and Problem Solving, from Raymond Smullyan’s books.
- Evening ESOL classes (volunteer) for local Spanish speakers.

University of Georgia

- Mathematics for future elementary school teachers (required for Ed. degree).

University of Texas

- Calculus and Business Calculus (Teaching Assistant), with **Maple** labs.

- Emerging Scholars Program (Assistant Instructor), for rural/minority students.
- Provisional Program (AI), college algebra for summer students.
- Preview Program (TA), pre-calculus for minority freshmen.
- Graduate Algebra (Grader), for graduate students in mathematics.
- Undergraduate Logic (Grader), for math majors.

University of Wisconsin

- Calculus and Multivariable Calculus (TA), for undergraduates.
- Differential Equations (TA), with *Mathematica* computer labs.

St. Stephen's Episcopal School, Austin, Texas

- Pre-Calculus, for high-school juniors and seniors.
- Honors Pre-Calculus, with sections on Fibonacci numbers, tangrams, etc.

Stanford University

- Introduction to the Macintosh (Instructor), once a week.
- Math Department tutor and grader for calculus courses.

PUBLICATIONS

Orbits of Algebraic Numbers with Low Heights, Math. Comp. **67** (April 1998), 815–820.

Two Irrational Numbers From the Last Non-Zero Digits of $n!$ and n^n , Math. Mag. **74** (October 2001), 316–320.

Sums of Heights of Algebraic Numbers, Math. Comp. **72** (2003), 1487–1499.

On the Middle Coefficient of the Cyclotomic Polynomial, MAA Monthly **111** (June-July 2004), 531–533.

There Are Only Nine Finite Groups of Linear Fractional Transforms with Integer Coefficients, Math. Mag. **77** (June 2004), 211–218.

Finding Factors of Factor Rings over the Gaussian Integers, with Wayne Dymacek, MAA Monthly, **112** (Aug-Sep, 2005), 602–611.

A Combinatorial Proof of Vandermonde's Determinant, with Art Benjamin, MAA Monthly, **114** (Apr, 2007), 338–341.

Three Transcendental Numbers From the Last Non-Zero Digits of n^n , F_n , and $n!$, Math. Mag. **81** (April 2008), 96–105.

Resultants of Cyclotomic Polynomials in $\mathbf{Z}[x]$, to appear, Rocky Mountain Journal of Mathematics.

Student's Solutions Manual for Rogawski's Calculus, W. H. Freeman, New York, 2007, with Brian Bradie (1st edition in print, work begins on 2nd edition in 2010).

Look, There's More to Say about Conway's Look and Say Sequence, with Jacob Siehler, submitted to Mathematics Magazine.

Binet-type formulas for r -generalized Fibonacci numbers, preprint.

On the Mahler Measure of $P(f/g)$, preprint.

PRESENTATIONS

- November 2009 “Cyclotomic Polynomials, Their GCDs, and Their Resultants,” W & L Colloquium.
- April 2009 “Resultants of Cyclotomic Polynomials in $\mathbf{Z}[x]$,” University of Georgia number theory seminar.
- March 2009 “Resultants of Cyclotomic Polynomials in $\mathbf{Z}[x]$,” University of South Carolina number theory seminar.
- April 2008 “Little-known facts about the Fibonacci numbers,” Davidson College mathematics club (invited talk).
- December 2007 “Binet-type formulas for r-generalized Fibonacci numbers,” PANTS conference at the University of South Carolina.
- April 2007 “Look, there’s more to say about Conway’s Look-and-Say sequence,” SERMON conference at Wake Forest (and earlier at JMU and EMU).
- April 2006 “Three Transcendental Numbers from the Last Non-Zero Digits of n^n , F_n , and $n!$,” regional MAA meeting at Loyola College in Baltimore.
- April 2006 “On the Mahler Measure of $P(f/g)$,” Mid-Atlantic Algebra Conference at JMU.
- October 2005 “A Rational Approach to Transcendent Numbers,” W&L Colloquium.
- April 2005 “Transcendental Numbers from the Last Non-Zero Digits of $n!$ and F_n ,” SERMON conference at USC.
- April 2005 “Rings of Gaussian Integers,” regional MAA meeting at UVa.
- March 2004 “Teaching in Public and Private Schools,” (Panel member), for Washington & Lee’s Education 401 class (also in December 2004).
- October 2002 “Mahler Measure of Composition Polynomials,” Washington & Lee Colloquium.
- January 2002 “Using Both Video and Text on the Web in a Linear Algebra Course,” national AMS/MAA Joint Meeting, San Diego.
- October 2001 “The RSA Method,” Hampden-Sydney College.
- May 2001 “Teaching Linear Algebra On-line,” Washington & Lee (twice).
- April 2001 “Linear Fractional Transforms with Integer Coefficients,” regional MAA meeting and also at Hampden-Sydney College some months later.
- March 2001 “Heights of Algebraic Numbers over Finite Groups in $PGL(2, Q)$,” regional AMS meeting in Columbia, SC (invited).
- October 2000 “Finite Groups of Linear Fractional Transforms with Integer Coefficients,” Washington & Lee Colloquium.
- March 2000 “Numbers and Secret Codes,” Parents’ Council meeting at Washington & Lee.
- July 1999 “Worlds Beyond: A Look into Astronomy,” W&L Alumni College.
- July 1999 “Not all Numbers are Perfect,” Science Summer Seminar Series at W&L (with student Adam Henry).
- April 1999 “Spectra of Heights over Finite Groups,” SERMON conference at USC.
- February 1998 “Cryptography and Number Theory,” Washington & Lee Colloquium.

- January 1997 “Variations on Lehmer’s Conjecture,” Project NExT/YMN poster session at national AMS/MAA Joint Meeting, San Diego.
- January 1997 “Teaching pre-college mathematics” (Panel member, MAA/YMN Panel Discussion), AMS/MAA Joint Meeting, San Diego.
- October 1996 “Limit points and density in the spectrum of the absolute Mahler Measure,” UT-Austin Number Theory seminar.

STUDENT WORK SUPERVISED

- 2005-06 “Finding Factors of Factor Rings”, Liz Twentymen.
- 2002-03 “Root Quantum Numbers,” Elizabeth Townsend (with Wayne Dymacek).
- Summer 1999 “Number Theory in the Gaussian Integers,” Adam Henry.

GRANTS, FELLOWSHIPS, SCHOLARSHIPS, AWARDS

- Winter 2009 Sabbatical appointment at the University of Georgia (funded by grants from W&L, UGa, and Associated Colleges of the South).
- Summer 2008 Washington & Lee Glenn Grant for summer research on Sierpinski numbers.
- Summer 2007 Washington & Lee Glenn Grant for summer research on Fibonacci numbers.
- Spring 2005 Washington & Lee Sabbatical for research on transcendental numbers.
- Spring 2004 Washington & Lee Sabbatical for research on Gaussian integers.
- Summer 2002 Washington & Lee Glenn Grant for summer research and for installing the Math Department computer lab.
- Fall 2001 Washington & Lee Pre-Tenure Sabbatical.
- Winter 2001 Mellon Teaching and Technology Fellowship, for designing my web-based linear algebra class.
- Summer 2000 Mednick Grant and Washington & Lee Glenn Grant for summer research at the University of British Columbia.
- Summer 1999 Washington & Lee Glenn Grant and R. E. Lee Grant for summer research with undergraduate Adam Henry (class of 2000).
- Summer 1998 Washington & Lee Glenn Grant for summer research with Jeff Vaaler at UT-Austin.
- 1996–97 UT-Austin Continuing Fellowship (one of only two awarded to graduate students in math that year).
- Fall 1996 UT-Austin Department of Mathematics Teaching Excellence Award (given to the best undergraduate teacher among all 110 TA’s and AI’s).
- Spring 1996 John L. and Anne Crawford Endowed Presidential Scholarship.
- Fall 1995 Dodd Teaching Excellence Award (given to top five math TA’s at UT-Austin).
- Summer 1995 UT-Austin Department Fellowship.
- 1993–94 UT-Austin University Fellowship.

SERVICE AND DEVELOPMENT

Referee, MAA Monthly (several times) and Journal of Integer Sequences.

Reviewer, AMS Mathematical Reviews service (over 30 articles).

Textbook Reviewer, “Calculus” (5th ed.) by James Stewart, “Calculus” (working title) by C. Lutzer and T. Goodwill, and “Discovering Number Theory” (1st ed.) by Jeff Holt and John Jones.

Editor, solution manual for “Calculus” (1st ed.) by Jon Rogawski.

Editor, solution manual for “Calculus” (2nd ed.) by Jon Rogawski, work begins in 2010.

Reader, ETS Advanced Placement Calculus Exams, summer 2001, 2003, 2005, 2006.

Member of Board of Editors, Young Mathematician’s Network, 1996-2002.

Member, UT-Austin textbook selection committee for pre-calculus course.

Member, American Mathematical Society (end Dec. 2009) and the Mathematical Association of America (start Dec. 2009).

Co-organizer of SERMON (SouthEast Regional Meeting On Numbers) conference held in Greensboro, March 2003; also attended other SERMON meetings in Columbia, Blacksburg, etc.

Participated in various service projects to the math department and to the university:

- Served at Midnight Breakfast.
- Interviewed Honor Scholarship candidates (over seven years).
- Installed a computer lab (twice).
- Hosted international students.
- Invited speakers to talk in class and to the department.
- Ran the math “Problem of the Month” series.
- Arranged cryptography and astronomy field trips.
- Participated in W&L’s fund-raising campaign video.
- Judged local/state science fairs.
- Reviewed math textbooks.
- Proctored SOA/CAS Actuarial exams at W&L.

Served on various committees at Washington & Lee:

- Financial Aid Committee.
- Courses and Degrees Committee.
- Advanced Placement Committee.
- Automatic Rule and Readmission Committee.
- Teaching Program Advisory Group.
- Technology Task Force.
- Student-Faculty Hearing Board.
- Mathematics Department Hiring Committee.