

**GREGORY P. DRESDEN**  
**CURRICULUM VITAE**

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Washington & Lee University  
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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.

**TEACHING EXPERIENCE**

**Washington & Lee University**

- Calculus, both standard and introductory.
- Multivariable Calculus, individual and team-taught.
- Vector Calculus, with self-designed **Maple** computer labs.
- Statistics, with sections on the odds of casino gambling.
- 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.
- Independent Study classes on number theory (including summer research).
- Evening ESOL classes (volunteer) for local Spanish speakers.

**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, on using computers.
- 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  $n!$* , submitted to Mathematics Magazine.

**PRESENTATIONS**

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|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 Twentyman.
- 2002-03 “Root Quantum Numbers,” Elizabeth Townsend.
- Summer 1999 “Number Theory in the Gaussian Integers,” Adam Henry.

### GRANTS, FELLOWSHIPS, SCHOLARSHIPS, AWARDS

- 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 and Journal of Integer Sequences.

Reviewer, AMS Mathematical Reviews service (more than 25 articles).

Textbook Reviewer, "Calculus" (5th ed.) by James Stewart, and "Discovering Number Theory" (1st ed.) by Jeff Holt and John Jones.

Editor and Accuracy Reviewer, solution manual for "Calculus" (1st ed.) by Jon Rogawski.

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 and the Mathematical Association of America.

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