David R. Grant: Curriculum vitae

EDUCATION:

A.B., (cum laude)	Princeton University	1981
Ph.D.	Massachusetts Institute of Technology	1985

PROFESSIONAL EXPERIENCE:

Chair, Math Department	University of Colorado, Boulder	2013–2016
Professor	University of Colorado, Boulder	2000–
Visiting Professor	University of Caen, France	2012 (June)
Visiting Professor	University of Texas, Austin	2011 (Spring)
Visiting Professor	Concordia University, Montreal	2010 (Fall)
Member	Mathematical Sciences Research Institute, Berkeley	2006 (spring)
Visiting Professor	University of Caen, France	2003 (June)
Visiting Professor	University of Caen, France	1999 (May)
Visiting Scholar	Columbia University, New York	1996
Associate Professor	University of Colorado, Boulder	1993–2000
Assistant Professor	University of Colorado, Boulder	1989–93
Visiting Professor	Cambridge University, England	1988–89
T.H. Hildebrandt Research Assistant Professor	University of Michigan, Ann Arbor	1985–88

GRANTS AND AWARDS:

co-PI on NSF 1934054 IUSE "CEMP" Grant, 2020-23
Named President's Teaching Scholar, University of Colorado, 2018
co-PI on 5-year NSF 1624628 IUSE "SEMINAL" Grant, 2016-2020 (supplement till 2022)
Named Professeur Invité, University of Caen, 2012
Dean's Fund for Excellence Grant 2011
Affiliated faculty on Department of Education GAANN grant P200A060220, 2006.
Dean's Fund for Excellence Grant 2005
co-PI on NSF CCF-0434410, 2004–2008
PI on NSF IGMS, DMS-0215630, 2003
Named Professeur Invité, University of Caen, 2003
Named Professeur Invité, University of Caen, 1999
Awarded University of Colorado Faculty Fellowship, 1995-96
Awarded Special Projects NSF grant, DMS 9314428, 1993
PI on 3-year NSF research grant, DMS 9303220, 1993.
Boulder Faculty Assembly Teaching Award, 1991.
PI on 2-year NSF research grant, DMS 9102652, 1991.
NATO Postdoctoral Fellowship, 1988.
PI on NSF research grant, DMS 85–02804, 1987.
Horace H. Rackham Faculty Grant, 1986.
University of Michigan Faculty Grant, 1986.
AAAS Mass Media Science and Engineering Fellowship, 1982.

PUBLICATIONS:

1. *Theta Functions and Division Points on Abelian Varieties of Dimension Two*, Thesis, MIT (1985) (Advisor: Harold M. Stark).

2. *A generalization of Jacobi's derivative formula to dimension two*, J. reine angew. Math. **392** (1988), 125–136.

3. *Coates–Wiles towers in dimension two*, Math. Ann. **282** (1988), 645–666.

4. *On heterogeneous spaces* (with K. R. Coombes), J. London Math. Soc. **40** (2) (1989), 385–397.

5. *Formal groups in genus two*, J. reine. angew. Math. **411** (1990), 96–121.

6. *On a generalization of a formula of Eisenstein*, Proc. London Math. Soc **3** (1991), 121–132.

7. *Small solutions to a given quadratic form with a variable modulus*, J. Number Theory **42** no. 1 (1992), 57–60.

8. *Computing the Mordell–Weil rank of Jacobians of curves of genus 2* (with D. M. Gordon), Trans. Amer. Math. Soc. **337** (2) (1993), 807–824.

9. *Integer points on curves of genus 2 and their Jacobians*, Trans. Amer. Math. Soc. **344** (1) (1994), 79–100.

10. *A curve for which Coleman's effective Chabouty bound is sharp*, Proc. Amer. Math. Soc. **122** (1) (1994), 317–319.

11. *Units from $3-$ and $4-$torsion on Jacobians of curves of genus 2*, Comp. Math. **95** (1994), 311–320.

12. *Formal groups of twisted multiplicative groups and L-series* (with N. Childress), Proc. Symp. Pure Math. **58.2** (1995), 89–102.

13. *A proof of quintic reciprocity using the arithmetic of $y^2 = x^5 + 1/4$*, Acta Arith. **LXXV.4** (1996), 321–337.

14. *Sequences of fields with many solutions to the unit equation*, Rocky Mount. J. Math. **26** (1996), 1017–1029.

15. *Units from 5-torsion on the Jacobian of $y^2 = x^5 + 1/4$ and the conjectures of Stark and Rubin*, J. Number Theory **77** (1999), 227–251.

16. *A public key cryptosystem based on sparse polynomials* (with K. Krastev, D. Lieman and I. Shparlinski), *Coding Theory, Cryptography, and Related Areas (J. Buchmann, T. Hoeholdt, H. Stichtenoth, H. Tapia-Recillas, Eds.)*, 1999.

17. *A formula for the number of elliptic curves with exceptional primes*, Compositio Math **122** (2000), 151–164.

18. *Examples of torsion points on genus 2 curves* (with J. Boxall), Trans. AMS **352**(10) (2000), 4533–4555.

19. *Five-torsion points on curves of genus two* (with J. Boxall and F. Leprevost), J. London Math. Soc (2) **64** (2001), 29–43.

20. *An explicit theorem of the square for hyperelliptic Jacobians* (with J. Arledge), Michigan Math. J **49** (2001), 485–492.

21. *On Gunning's prime form in genus 2*, Canad. Math. Bull **45** (2002), 89–96.

22. *Some product formulas for theta functions in one and two variables*, Acta Arithmetica **102** (2002), 223–238.

23. *Theta functions and singular torsion on elliptic curves* (with J. Boxall), *in Mathematics for the Millenium*, A K Peters, Natick, 2002.

24. *Singular torsion on elliptic curves* (with J. Boxall), Math. Research Letters **10** (2003), 847–866.

25. *Torsion on theta divisors of hyperelliptic Fermat Jacobians*, Compositio Mathematica **140** (2004), 1432–1438.

26. *Cuspidal torsion packets on hyperelliptic Fermat quotients* (with D. Shaulis), J. Théor. Nombres Bordeaux **16** (2004), 577–585.

27. *Geometric proofs of reciprocity laws*, J. Reine Angew. Math **586** (2005), 91–124.

28. *Weight enumerators and a MacWilliams-type identity for space-time rank codes over finite fields* (with M. Varanasi), Proceedings of the 43rd Annual Allerton Conference on Communication, Control, and Computing (2005), 2137–2146.

29. *Some remarks on almost rational torsion points* (with J. Boxall), J. Théor. Nombres Bordeaux **18** (2006), 13–28.

30. *Duality theory for space-time codes over finite fields* (with M. Varanasi), Advances in Mathematics of Communications **2** (2008), 35–54.

31. *The equivalence of space-time codes and codes over finite fields and Galois rings* (with M. Varanasi), Advances in Mathematics of Communications **2** (2008), 131–145.

32. *Space-time codes and non-associative division algebras arising from elliptic curves* (with A. Deajim), Contemporary Mathematics **463** (2008), 29–44.

33. *A classification of 3-dimensional non-associative division algebras over local fields* (with A. Deajim), Journal de théorie des nombres de Bordeaux **23** (2011), 329–346.

34. *One-parameter families of elliptic curves over $\mathbb{Q}$ with maximal Galois representations* (with A. Cojocaru and N. Jones), Proceedings of the London Math. Soc. **103** (2011), 654–675.

35. *A Lutz-Nagell Theorem for hyperelliptic curves.*, J. Number Theory. **133** (2013), 963–969.

36. *Integral division points on curves* (with S. Ih), Compositio Math. **149** (2013), 2011–2035.

37. *The quadratic Gauss Sum redux*, Amer. Math. Monthly **121** (2014), 145–149.

38. *Higher genus universally decodable matrices (UDMG)* (with S. Limburg and M. Varanasi), Advances in the Mathematics of Communication **8(3)** (2014), 257–270.

39. *Feasibility of Single-Beam Interference Alignment in Multi-Carrier Interference Channels* (with M. Varanasi), IEEE Transactions on Information Theory **63(11)** (2017), 7352–7357.

40. *A Generalization of Jacobi's Derivative Formula, II*, Acta Arithmetica **190.4** (2019), 403–420.

41. *A higher level generalization of Jacobi's derivative formula and its algebraic geometric analogue*, J. Théor. Nombres Bordeaux **33** (2021), 361–386.

42. *On the universal p-adic sigma and Weierstass zeta functions* (with Clifford Blakestad), J. Number Theory **249** (2023), 348–376.

43. *Differential Codes on Higher Dimensional Varieties Via Grothendieck's Residue Symbol* (with

John D. Massman, III; Srimathy Srinivasan), Journal of Pure and Applied Algebra **228** (2024), https://doi.org/10.1016/j.jpaa.2023.107535.

IN OTHER FIELDS

44. *An Analysis of the Content and Difficulty of the CSAP 10th-Grade Mathematics Test: A report to the Denver Area School Superintendents Council (DASSC), by Lorrie A. Shepard and Dominic D. Peressini, with Jeffrey A. Frykholm, David R. Grant, Damian Betebenner, William Briggs, William Juraschek, Lew Romagnano, James Loats, January 2002 (Unpublished: Available on the National Education Policy Center website).*

45. *How do organisms respond to competing energetic requirements? The working energy/take-home energy hypothesis.* (abstract with K. Laland and R. Levin), Integrative and Comparative Biology **44(6)** (2004), 719.

46. *Babe Ruth, sabermetrics, and baseball's politics of greatness.* (with L. Cassuto), Cambridge Companion to Baseball (edited by L. Cassuto and S. Partidge), Cambridge University Press (2011).

47. *Calculus: A primer for new teachers*, in revision for Math. Intell.

48. *An Ethical Opening for Higher Ed Institutions* (with M. Meaney), Inside Higher Education (August 27, 2020).

49. *All-In University* (With Robert Tubbs), Transformational Change Efforts: Student Engagement in Mathematics through an Institutional Network for Active Learning (edited by Wendy M. Smith, Matthew Voijt, April Ström, David C. Webb, W. Gary Martin, AMS/CBMS (2021).

50. *Culture and Equity* (With Matthew Voijt, Wendy M. Smith, Nancy Kress and April Ström), Transformational Change Efforts: Student Engagement in Mathematics through an Institutional Network for Active Learning (edited by Wendy M. Smith, Matthew Voijt, April Ström, David C. Webb, W. Gary Martin, AMS/CBMS (2021).

51. *Sustainability* (With Molly Williams, W. Gary Martin, Michael E. O'Sullivan), Transformational Change Efforts: Student Engagement in Mathematics through an Institutional Network for Active Learning (edited by Wendy M. Smith, Matthew Voijt, April Ström, David C. Webb, W. Gary Martin, AMS/CBMS (2021).

52. *Modeling Human Health Behavior with a New Index That Measures Connectivity,* (with Bernstein, Steven; Li, Fangyong; Abujarad, Fuad; D'Onofrio, Gail; Dziura, James, Preventive Medicine Reports **33** (2023), 102172.

Articles in press

Articles submitted for publication

Manuscripts/work in progress

53. *Notes on integers in division fields of elliptic curves with integral j-invariant.*

54. *Analytic theory of curves of genus 2.*

55. *Cyclic cubic points on curves* (with H. Kisilevsky).

56. *Squares in vector spaces* (with H. Kisilevsky).

57. *Resultants of Division Polynomials, I., II., III., IV.*

58. *Calculating p^n-torsion on ordinary elliptic curves in characteristic p.*

59. *A Frobenius-Stickelberger Formula on Jacobians of curves of genus 2.*

Unpublished

60. *Discriminants and Heights of Points on Curves* (with K. Coombes and J. Silverman).

Conference Proceedings Edited

61. *Proceedings of the Symposium on Diophantine Problems in Honor of Wolfgang Schmidt's 60th birthday*, Rocky Mount. J. Math. **26** (1996).

LECTURES:

The evolution of our Undergraduate Program: An homage to Robert Tubbs, Seminar in Undergraduate Education, CU Boulder, September 2023.

An introduction to curves of genus 2 and their jacobians, 2 talks in Number Theory Seminar, CU Boulder, September 2022.

Moderator on virtual MAA program: Successful Department Change Efforts to Transform Precalculus and Calculus, May 2021.

Resultants of division polynomials and their derivatives and singular torsion on elliptic curves, AMS Sectional Meeting, Denver, January 2020,

Can you hear me now? An introduction to error-correcting coding, UCB Math Club, December 2019.

Can you hear me now that I'm a square? Front Range Number Theory Day, November 2019.

The Quadratic Gauss Sum Redux: Tangents talk, CU Boulder, April 2018.

SEMINAL: A grant aimed at helping institutions develop and maintain active learning in the P2C2 sequence; led panel (with A. Donsig, M. O'Sullivan) at TPSE Math, March 2017.

Why do parallel lines intersect?, UCB Math Club, October 2016.

On Riemann's Theta Function, UCB Mathematics Department Theta Function Seminar, September 2016.

Plans and practice in the UCB Mathematics Department, MAA Rocky Mountain Section Meeting, Colorado Springs, April 2015.

A Lutz-Nagell Theorem for Hyperelliptic Curves, SIAM Conference on Applied Algebraic Geometry, Ft. Collins, August 2013.

Resultants of Division Polynomials, AMS Sectional Meeting, Boulder, April, 2013.

Space-time codes coming from elliptic curves, Universite de Marseilles, June, 2012

Space-time codes coming from elliptic curves, Universite de Caen, June, 2012.

Integral Division Points on Curves, AMS Sectional Meeting, Lincoln, October 2011.

The quadratic Gauss sum revisited, CU Boulder seminar, October, 2011.

Integral Division Points on Curves, FRAGMENT Seminar, CSU, October 2011.

Integral Division Points on Curves, Journees Arithmetiques, Vilnius, June, 2011.

Integral Division Points on Curves, Texas A and M University seminar, April, 2011.

Integral Division Points on Curves, University of Texas seminar, April, 2011.

Integral Division Points on Curves, Quebec-Vermont Number Theory Colloquium, December, 2010.

Analytic theory of genus 2 curves, CICMA Seminar, Concordia University, November 2010.

A level 1 genus 2 Jacobi's derivative formula and applications to the analytic theory of genus 2 curves, ICMS, Edinburgh, October 2010.

Serre-curves in a 1-parameter family, CCR-West, November, 2009.

Serre-curves in a 1-paramter family, Southern California Number Theory Day, UC Irvine, November 2009.

The Yin and Yang of triangles, Mesa State College, October, 2009.

Public-Key Crypotosystems. MathPath Program, July 2009.

Can you hear me now? Departmental Colloquium, Brigham Young University, March 2009.

The ramifications of p in a p-descent. AMS sectional meeting, Vancouver, October 2008.

Can you hear me now? Brown Bag Seminar, Mesa State, April 2008.

Generalizations of Jacobi's Derivative Formula. AMS sectional meeting, Tucson, March 2007.

Twisted Cyclic Division Algebras and Space-Time Codes. AMS sectional meeting, Davidson College, March 2007.

Geometric proofs of reciprocity laws. Seminar ASU, November 2006.

Can you hear me now? Colloquium, ASU, November 2006.

Non-associative division algebras and space-time code construction, Codes and Sequences conference, Vancouver, July 2006

Can you hear me now? Number-theoretic aspects of space-time codes, CNTA, Vancouver, July 2006.

Can you hear me now?, Five college number theory seminar, Amherst, May 2005

Number Theoretic Aspects of space-time codes, AMS sectional, San Francisco, April 2006.

Torsion points on subvarieties of Jacobians of rational images of Fermat curves, MSRI, March 2006.

Duality Theory for space-time codes over finite fields, AMS sectional meeting, Lincoln, October, 2005.

Weight enumerators and a MacWilliams-type identity for space-time rank codes over finite fields, 43rd Annual Allerton Conference on Communication, Control, and Computing, September 2005.

On some Manin-Mumford problems, Stark Conference, University of Minnesota, August 2004.

The mathematical theory of space-time codes. Seminar, University of Nebraska, April 2004.

Just how exceptional are exceptional primes? Colloquium, University of Nebraska, April 2004. April 2004.

Just how exceptional are exceptional primes? Colloquium, CSU, April 2004.

Some comments on almost rational torsion points. Seminar, University of British Columbia, March 2004.

Algebraic Theory of Space-Times codes, Colloquium, University of Wyoming, December 2003.

On almost rational torsion point, Seminar, University of Paris, June 2003.

On Coates-Wiles Towers, seminar, University of Caen, June 2003.

On almost rational torsion point, Seminar, University of Caen, May 2003.

On Coates-Wiles Towers, seminar, University of Grenoble, May 2003.

An infinitude of proofs of the infinitude of primes, Slow Pitch, CU-Boulder, April 2003.

An infinitude of proofs of the infinitude of primes, Brown Bag Colloquium, Mesa State College, March 2003

Testing primality in polynomial time, Colloquium, CU Boulder, September 2002.

Just how exceptional are exceptional primes?, Seminar, University of Wisconsin, Madison, April 2002.

Just how exceptional are exceptional primes? Seminar, University of Illinois, Champaign-Urbana, April 2002.

The slowest way to bake a pi. MAA sectional meeting, Laramie, April 2002.

The slowest way to bake a pi. Seminar, Williams College, March 2002.

Geometric proofs of reciprocity laws, Seminar, LSU, February 2002.

Lies my calc prof told me, Brown Bag Colloquium, Mesa State College, April 2001.

Lies my calc prof told me, Slow Pitch, CU-Boulder, April 2001.

Generalizations of Jacobi's derivative formula. Colloquium, Boston College, April 2001.

Just how exceptional are exceptional primes? Seminar, Boston University, April 2001.

Singular torsion on elliptic curves. AMS meeting in New Orleans, January 2001.

Just how exceptional are exceptional primes? Colloquium, University of Vermont, October 2000.

Singular torsion on elliptic curves. Joint Montreal–Vermont number theory seminar, October, 2000.

Singular torsion on elliptic curves. Millenial Number Theory Conference, University of Illinois, May 2000.

King Tut and Secret Codes: Tales from the encryption. Brown bag seminar, Mesa State College, April 2000.

Just how exceptional are exceptional primes? Colloquium, Arizona State University, March 2000.

Just how exceptional are exceptional primes? Colloquium, University of Groningen, Holland, June 1999.

A formula for the number of elliptic curves with exceptional primes, conference, University of Caen, June 1999.

On Manin-Mumford problems, University of Caen, May 1999.

Geometry and Reciprocity, University of Caen, May 1999.

A formula for the number of elliptic curves with exceptional primes, University of Basel, Switzerland, May 1999.

A formula for the number of elliptic curves with exceptional primes AMS meeting in Chicago, September 1998

Examples of torsion on genus 2 curves Nunspeet, Holland, March 1998

Examples of torsion on genus 2 curves, CU Boulder, January 1998.

Geometric proofs of classical reciprocity laws, AMS meeting in Montreal, September 1997.

Geometric proofs of classical reciprocity laws, CU Boulder, September 1997.

Some units which fit into the conjectures of Stark and Rubin, Arizona State University, March 1997.

Fields with many solutions of the S-unit equation, Automorphics forms conference, CU Boulder, March 1997.

Some units which fit into the conjectures of Stark and Rubin (to 10 digits), Université de Paris VI, May 1996.

Some units which fit into the conjectures of Stark and Rubin (to 10 digits), Université de Caen, May 1996

Product formulas and reciprocity laws, Wesleyen Uiversity, April 1996.

Some units which fit into the conjectures of Stark and Rubin (to 10 digits), Columbia University, February 1996.

Some units which fit into the conjectures of Stark and Rubin (to 10 digits), University of Maryland, February 1996.

The harder they come, the harder they fall, Reed College, September 1995

Units that fit into the conjectures of Stark and Rubin (to 10 places), CU Boulder, September, 1995.

Units that fit into a generalized Stark's conjecture, AMS Summer Meeting, Burlington, 1995.

A new proof of Eisenstein Reciprocity, Arizona State University, May 1995.

Four talks in seminar on class field theory, CU Boulder, Spring 1995.

On a new proof of the 5-color map theorem, CU Boulder, November 1994.

A proof of quintic reciprocity using the arithmetic of $y^2 = x^5 + 1/4$ (2 talks), CU Boulder, October 1994.

A proof of quintic reciprocity using the arithmetic of $y^2 = x^5 + 1/4$, Luminy, France, September 1994.

A modular form and a related topic; Automorphic Forms and
    Related Topics Conference, Santa Barbara, March 1994.

On $log(262537412640768744)/\sqrt{163}$, or just why is $X^2 + X + 41$ a prime for $0 \le X \le 39$?, CU Boulder, November 1994.

Arguments of (and pertaining to) quintic Gauss sums, Brigham Young University,
    March 1993.

Units attached to 3- torsion of Jacobians of curves of genus two, Conference on arithmetic geometry, Arizona State University, March 1993.

Units attached to 3- and 4- torsion of Jacobians of curves of genus two, CU Boulder, February 1993.

Some product formulas for genus 2 theta functions, Arizona State University, November 1992.

Some product formulas for genus 2 theta functions, University of Arizona, November 1992.

Formal Groups and Reciprocity, CU Boulder, October 1992.

Some generalizations of a formula of Eisenstein, Columbia University,
    May 1992.

Arguments of (and pertaining to) quintic Gauss sums, University of Southern California,
    April 1992.

Integer points on curves of genus two and their Jacobians (two talks),
    Arizona State University, March 1992.

The Slow-Pitch way to bake a Pi, Slow Pitch seminar at CU Boulder,
    February 1992.

Integer points on curves of genus two and their Jacobians (two talks),
    CU Boulder, January 1992.

A generalization of a formula of Eisenstein, Kempner Colloquium,
    CU Boulder, September 1991.

Integer points on curves of genus two and their Jacobians, Conference on
    Computational Number Theory, Oberwolfach, July 1991.

The arithmetic of a curve of genus two, Ochanomizu University, Tokyo,
    May 1991.

Small solutions of quadratic forms with a variable modulus; Automorphic Forms and
    Related Topics Conference, Santa Barbara, March 1991.

Computing the Mordell–Weil ranks of Jacobians of curves of genus two, DIMACS Conference,
    Rutgers University, March 1991.

IF U CN RD THS MSG, Undergraduate Mathematics Club talk at CU Boulder,
    January 1991.

IF U CN RD THS MSG, Slow Pitch Seminar, University of Colorado, Boulder,
    November 1990.

Lectures on the Mordell–Weil Theorem (7), University of Colorado, Boulder,
    September–December 1990.

On a generalization of a formula of Eisenstein, UC Santa Barbara, February 1990.

Small solutions of quadratic forms, University of Colorado, Boulder, December 1989.

Euler's 3 biquadrate problem, Slow Pitch Seminar, University of Colorado, Boulder,
    October 1989.

Lectures of the Jacobian of a curve of genus two (2), University of Colorado, Boulder,
    September 1989.

On the arithmetic of curves of genus two, Cambridge University, December 1988.

Rational points on curves, Lehigh University, April 1988.

Formal groups in genus two, First Annual Meeting of the Canadian Number
    Theory Association, Banff, March 1988.

Rational points on curves, Wesleyan University, March 1988.

On heterogeneous spaces, Denison Number Theory Conference, February 1988.

Rational Points on Curves, University of Colorado, Boulder, February 1988.

Euler's 3 biquadrate problem, University of Michigan, February 1988.

Ihara's work on Coates–Wiles homomorphisms, University of Michigan, December 1987.

The Alabama Paradox, University of Michigan "Math Day", 1987.

On Theorems of Rubin (2), University of Michigan, February 1987.

Coates–Wiles Towers in Dimension 2, University of Michigan, December 1986.

Transcendence on Abelian surfaces with complex multiplication, University of Michigan,
    September 1986.

Formal Groups in Genus 2, University of Michigan, March 1986.

Functional Equation of the Dedekind Zeta-Function (after Stark); University of Michigan,
    January 1986.

Coates–Wiles Towers (after Gupta), University of Michigan, October 1985.

Theta functions and division points on Abelian varieties, MIT, May 1985.

Theta functions and division points on Abelian varieties of dimension 2, UC San Diego,
    May 1985.

Cyclotomic Units and Hilbert's Satz 90 (after Newman), MIT, 1984.

STUDENTS SUPERVISED

Caroline Matson, Ph. D. 2020
Clifford Blakestad, Ph. D. 2019
Dmitro Golovanich, MA, 2014
James Maxwell, MA. 2012
Steven Limburg, Ph. D. 2012
David Keyes, Ph. D. 2011
Erika Wittenborn, Ph. D. 2010
Vinod Radhakrishnan, Ph. D. 2008
Erika Frugoni, MA. 2007
Abdulaziz Deajim, Ph. D. 2006
John Massman, Ph. D. 2005
Christopher Rowe, Ph. D. 2003.
Bret Simon, Ph. D. 2003.
Gadalia Weinberg, Honors Thesis (Summa) 2002.
Abdul Deajim, MA. 2001.
Veronika Fürst, MA. 2001.
Gwynneth Coogan, Ph. D. 1999.

Delphy Shaulis, Ph. D. 1998.
Denise Philipbar, MA. 1996.
Jane Arledge, Ph. D. 1995.
Robert Matuschek, MA. 1994.
Stacey Glazer, MA. 1993.
Elizabeth Batcho, MA. 1993.
John DeSanto, MA. 1991.

SERVICE TO UNIVERSITY OF COLORADO:

Chair, PUEC for Kate Stange, Fall 2023
Member, departmental hiring committee, Fall 2022.
Member, ad hoc committee on Department Constitution, 2020-2022.
Chair, PUEC for Sebastian Casalaina-Martin 2021
Member, PUEC for Nathaniel Thiem 2020
Member, PUEC for Chris Aquinto 2020
Member, PUEC for Magdalena Czubak 2019
Member Timmerhaus Award Selection Committee 2019
Chair, Arts and Sciences Council Committee on Health Risks to College Football Players, 2017-2018
Chair, Department of Mathematics, 2013–2016
Department ASC representative, 2016–2018
Department Director of Alumni Relations, 2016–
Editor of departmental newsletter: Prime Bits, 2016–
Arts and Sciences Curriculum Committee, 2017
Chair of PUEC for Katherine Stange, 2017.
Working with departmental colleagues and Center for STEM learning on building a Teaching Quality Framework for the Math Department, 2017–2018
Chair of PUEC for Katherine Stange, 2016.
Dean's Chairs and Directors Advisory Committee, Spring 2014
Chair, Geometry search committee, 2011–12
Member, PERC for Suion Ih, 2011.
Associate Chair for Graduate Studies, 2008–2010.
Member, PERC for Suion Ih, 2008.
Chair, Algebraic Geometry search committee, 2007–08
Chair, Task force on Evaluation, Reappointment, Promotion, and Tenure, 2007–2008. Member of task force, 2008–2010.
Organizing number theory seminar and Front Range Number Theorem Colloquium (with CSU), 2006–2008.
Chair, PUEC for Jeanne Clelland, 2006.
Led departmental effort to get Robert Gunning an honorary degree.
Co-chair, PUEC for Bin Wang, 2005.
Member Promotion Committee for Robert Tubbs, 2005-06.
Member Tenure Committee for Richard Green, 2006
Number theory hiring committee, 2004-5.
Consulted for Denver Public Schools on their K-8 math curriculum, 2004. Co-authored letter to the Denver and Colorado Springs communities supporting curricular changes.
Departmental representative to Rocky Mountain Consortium of Mathematics, 2003–2015.
Algebra hiring committee, 2002-2003.

Served on the School of Education's Promotion and Tenure Committee, 2002.

Along with Kent Goodrich and Robert Tubbs, wrote an 11-page expansion upon the Strategic Report of the Math Department's Self-Study of the PRP (for the IRC), 2001.

Picked by CCHE to chair the General Education Working Committee on mathematics at the statewide Faculty-to-Faculty Conference, 2001. Continued to work with representatives from all of Colorado's public institutions of higher learning and the CCHE to craft criteria for mathematical competency and course content for courses that will meet the State mandated core requirements, and to choose which courses meet that requirement, 2001-2006.

Gave advice on algebra to members of School of Education working under an Interagency Education Research Initiative grant, 2001.

Member of campus-wide committee on Information and Information Technology Literacy and Fluency, which was part of the University's Educational Technology Strategic Planning, 2001.

School of Education Teacher Advisory Committee, 2000

Wrote proposals to convert Math Modules to classes, 2000, 2001

College Core Curriculum Committee, 1999-2000

UMAP PRP Self-study Committee, 1998-99

Algebraic Geometry hiring committee, 1998-99

Wrote a reinvestment proposal to convert Modules to Classes, 1998
 (with Kent Goodrich and Eric Stade)

Co-Director, Actuarial Studies Program, 1997–2008, 2011–.

Member, Departmental Undergraduate Committee, 1996–2001, 2005–07, 2011–2013

Member, BFA Intercollegiate Athletics Committee, 1996–98

Member, University Faculty Council, 1994–1995

Member, Departmental Computer Committee, 1994–98

Member, Departmental Executive Committee, 1993–95, 2006–08, 2012–2013, 2020-22

UMAP Advisory Committee, 1992–93

Chairman, Mathematics committee for revising graduate courses in algebra
      and number theory, 1992.

Member, Boulder Faculty Assembly Teaching Excellence Award Selection Committee, 1992.

Member, Mathematics Graduate Committee, 1990–93, 2007–2008.

Mathematics Honors Program Representative, 1990–93, 1996–97

Algebra Preliminary Examination Committee, January 1990, August 1990, January 1991, January 1992, January 1995, August 1996, January 1998, January 1999, August 1999, August 2001, August 2004, August 2005, August 2006, August 2008, January 2010, January 2012, August 2014, August 2016, January 2018, January 2019, January 2020, August 2021, January 2023

Second reader, Ph.D. thesis of Don Vestal, 1998.

Second reader, Ph.D. thesis of Peter Massey (Electrical Engineering), 1996.

Second reader, Ph.D. thesis of Deanna Caveny, 1991.

Member, Ph.D. Committee
      Jeffrey Thunder, 1990; Mary Anne Beard, 1992; Paul Voutier, 1993; Cathy Bonan-Hamada, 1994; Simon Wong, 1995, Chris Moretti, 1996, Bob Ream, 1998, Jeffrey Swope (Geology) 1998, Eric Knuth (Education) 1999, Damien Betebenner (Education) 2001, Kay Uchiyama (Education) 2001 (and 2003), Jeff Hovermill (Education) 2001 (and 2003), David Tuller 2002, Doug Norris 2002, Mark Becker 2003, Alex Olivas (Physics 2004), Steve Kadlec (Physics) 2004, Prasad Nurayan (Electrical Engineering) 2005, Pranav Dayal (Electrical Engineering) 2005, Noel Segullo 2007, Troy Seguin, 2008, Martin Cochrane (CS) 2008, Marc Formicella 2008, Clifford Bridges 2019-, Nancy Kress (Education) 2020-21,

Hanson Smith 2020, Daniel Martin 2020, Ruofan Li 2021, Sarah Arpin 2022, Rebecca Machen (Education) 2022-2023, Clifford Bridges 2023, Jonathan Quartin 2023.

Member, Comprehensive Examination Committee of Paul Voutier, 1990;

Jane Arledge, 1992; Simon Wong, 1992; Fabio Ancona, 1993; Scott Ahlgren, 1993; Gao Xia, 1993; Matthew Conroy, 1993; Delphy Shaulis, 1993; Jennifer Taggert, 1994; Helen Kim, 1994; Gwyn Coogan, 1995; Peter Massey (Electrical Engineering), 1995, Steve Caulk, 1997, David Tuller, 1998, Chris Rowe 1999, Bret Simon 1999, John Massman 2001, Sydney Smith 2002, Abdul Deajim 2002, Vinod Radhakrishnan, Troy Seguin, 2007, Joshua Wiscons, 2007, Martin Cochrane (CS) 2007, Stefan Laendner (EECS) 2007, Erika Wittenborn 2007, Jason Hill 2010, Ryan Rosenbaum 2012, Adrian Neff 2021, Bob Kuo 2021, Matt Watson 2022, Eli Orvis 2022, Joseph Macula 2022, Matthew Watson 2023

Member, Masters Committee

Tracy Ryan, Kerri Kimberly (1999), Mark Becker (2002), Beverly Heigre (2002), Prasad Narayan (Electrical Engineering) (2003), Pranav Dayal (2004), Martin Cochrane (Computer Science) (2005), Jonathan Meadows (2006), Mary Hedges (2007), Margarita Echevarria (2011), Daniel Proulx (2011), Molly Stein (2012), Jinjoo Yoo (2012), Bryan Abbe (2012), Ryan Rosenbaum (2012), Matthew Grimes (2012), Kristian Havasi (2013).

Served on Math Club's Career Panel 2010.

SERVICE TO THE PROFESSION:

Associate Editor, Rocky Mountain Journal of Mathematics, 2001–2019

Member of Mathematics Advisory Group of TPSE MATH — "Transforming Post-Secondary Education in Mathematics" — a group sponsored by the Carnegie Corporation, the Sloan Foundation, and the NSF, which aims to effect constructive change in mathematics education at community colleges, 4-year colleges and research universities.

Co-organizer, special session on Applications of number theory and algebraic geometry to coding, AMS meeting in Boulder, October 2003.

Co-organizer of the Symposium on Diophantine Problems held in honor of Wolfgang Schmidt's 60th Birthday, Boulder, June–July 1994.

Reviewer for *Mathematical Reviews.*

Member, American Mathematical Society.

Member, London Mathematical Society.

REFEREED PAPERS FOR:

J. Edinburgh Math. Soc.
Tokyo Journal of Mathematics
Glasgow Journal of Mathematics
Mathematische Annalen
Compositio Mathematica
Crelle
Journal of the London Mathematical Society
Transactions of the American Mathematical Society
Journal of Number Theory
Monatshefte für Mathematik
Pacific Journal of Mathematics
Rocky Mountain Journal of Mathematics
The American Mathematical Monthly

Notices of the American Mathematical Society
Primus

REVIEWED PROPOSALS FOR:

National Science Foundation.
Israel Science Foundation.
Australian Research Council.
FDR (South Africa).
Kuwait Foundation for the Advancement of Sciences
Selwyn College, Cambridge.

COURSES TAUGHT:

Undergraduate:
Calculus I; Calculus II; Calculus III; Calculus for engineers, II; Computer Calculus I; Introduction to Number Theory; Modern Algebra; Mathematics for the Environment; Linear Algebra; Linear Algebra for Math Majors; Probability and Statistics; Mathematical Probability; Spirit and Uses of Mathematics, Mathematics of Coding and Cryptography, Math for Secondary Educators, Introduction to Analysis, Supplemental Education for Precalculus Students, Differential Equations, Complex Analysis, Discrete Mathematics, Euclidean/non-Euclidean Geometry

Graduate:
Theory of Numbers, I, II; Theory of Algebraic Curves, I, II; Modern Algebra I, II, Algebraic Geometry, Modular Forms, Linear Algebra, Topics in Complex Analysis, Topics in Number Theory

Independent Study:
Algebraic number theory; Paul Voutier, Fall 1989.
Local fields; Paul Voutier; Spring 1990.
Linear representations of finite groups; Veronika Fürst, Spring 2001.
Algebraic Coding Theory; Abdul Deajim, Fall 2001.
Quaternary Codes, Gadalia Weinberg, Spring 2002.
Class Field Theory, Erika Frugoni, Strider McGregor-Dorsey, Jonathan Kish, Fall 2006.

OUTREACH TEACHING:
Taught 2 one-week courses at MathPath, 2015 (Sums of Squares, Intro to Number Theory)
Taught 2 one-week courses at MathPath, 2012 (Sums of Squares, Finite Differences)
Taught a one-week course at MathPath, 2011 (Infinitely Many Proofs of the Infinitude of Primes)
Taught in MIT's six-week Minority Introduction to Engineering and Science (MITES) program, 1984