

Curriculum Vitae

William F. Rulla

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Citizenship

USA.

Education

Ph.D. Mathematics, University of Texas, Austin, 2001.
Thesis Advisor: Seán Keel.

B.A. Physics, Mathematics, Oberlin College, Ohio, 1991, GPA 3.85.

Research Interests

Algebraic Geometry: birational geometry, classification of morphisms and rational maps, moduli spaces of curves, algebraic curves, computational algebraic geometry.

Professional Experience

University of Georgia (VIGRE Postdoctoral Associate):

06/04-07/04: Instructor, Advanced Linear Algebra: Jordan and rational canonical forms, spectral theorems, infinite dimensional vector spaces.

01/04-05/04: Instructor, Linear Algebra.

08/03-12/03: Instructor, Algebraic Curves: resultants, projective geometry, classification of conics, Bézout's theorem, Riemann-Hurwitz, and the degree-genus formula for smooth plane curves.

08/02-12/03: Participant, VIGRE research group, “The rank of an elliptic curve” by D. Lorenzini: a computational search for elliptic curves of high rank.

01/03-05/03: Instructor, Algebra and Problem Solving: an examination of topics in mathematics relevant to elementary school teachers for prospective pre-k to second grade teachers.

08/02-12/02: Instructor, Foundations of Geometry I: an in-depth study of Euclidean and hyperbolic geometry from an axiomatic point of view.

05/02-07/02: Director, VIGRE Research Experience for Undergraduates, “Examples relating to Green's Conjecture” (see *Papers*): an introduction to

Gröbner bases with applications to a computational study of free resolutions of canonical rings of curves.

01/02-05/02: Participant, VIGRE research group, “Moduli of curves” by V. Alexeev: a study of the moduli spaces $\bar{M}_{0,n}$ (see *Papers*).

01/02-05/02: Instructor, Foundations of Geometry I.

Spring 2002: Referee, *Contemporary Mathematics*.

08/01-12/01: Participant, VIGRE research group, “Flag Varieties” by W. Graham: a computational study of the characteristics of polynomials associated to the vertices of certain graphs, and to what extent these are purely graph-theoretical.

08/01-12/01: Instructor, Integral Calculus.

Harvard University:

09/00-01/01: Course Assistant, Graduate Algebraic Geometry: a topics course on families of algebraic curves and the moduli spaces $\bar{M}_{g,n}$.

University of Texas at Austin (Graduate Student):

01/01-05/01: Graduate Research Assistant for Seán Keel.

06/99-09/00: Department Ombudsman: prerequisite enforcement, student advising, faculty/parent liaising, mediation.

09/98-05/99: Assistant Instructor, Emerging Scholars Program Calculus: an application of Uri Treisman's observations on teaching mathematics to students of a demographic historically underrepresented in calculus.

06/98-09/98: Graduate Research Assistant for Seán Keel.

01/98-05/98: Teaching Assistant, Graduate Differential Topology.

09/97-01/98: Teaching Assistant, Differential Equations.

06/97-09/97: Graduate Research Assistant for Lorenzo Sadun.

01/97-05/97: Teaching Assistant, Precalculus.

01/96-05/96: Teaching Assistant, Business Calculus.

09/95-01/96: Teaching Assistant, Business Calculus.

Oberlin College:

09/91-08/95: Piano Technician, Conservatory of Music: tuned, cleaned, and helped rebuild a collection of two hundred Steinway pianos, fielded faculty concerns, trained student workers.

Summers, 1990, 1991: Undergraduate Research Assistant, Department of Physics: assisted in the running of nuclear scattering experiments at Notre Dame and Groningen (Netherlands), performed analyses on results.

Papers

- *Examples Relating to Green's Conjecture in Low Characteristics and Genera*, with Estu, Im, Manning, Michaels, Pasko, and Wijesinghe. See <http://www.math.uga.edu/~rulla/green/green.pdf>.
- *Effective cones of quotients of moduli spaces of n -pointed stable rational curves*. Trans. Amer. Math. Soc. **358** (2006), 3219-3237.
- *The Birational Geometry of M_3 and $M_{2,1}$* . Ph.D. thesis, University of Texas at Austin (2001).
- *Average reaction cross sections for 74- to 112-MeV alpha particles on ^{127}I and ^{133}Cs* . R.E. Warner *et al.* Physical Review C, Volume 43, Number 3 (1991) 1313-1317.
- *Total Nuclear Reaction Probabilities and Average Cross Sections for 16 to 23 MeV ^6Li in Silicon*. R.E. Warner *et al.* Nuclear Physics A516 (1990) 416-428.

Presentations

(2/04) University of Georgia, Algebraic Geometry Seminar: “Examples relating to Green's conjecture.”

(11/02) University of Georgia, Mathematics Department VIGRE Seminar: “Moduli spaces of curves.”

(10/02) University of Georgia, Algebraic Geometry Seminar: “A discussion of Green's Conjecture.”

(01/02) University of Georgia, Algebraic Geometry Seminar: “On a paper of Hassett's and Tschinkel's.”

(09/01) University of Georgia, Algebraic Geometry Seminar: “The rational maps admitted by M_3 .”

(03/01) University of Texas at Austin: “The birational geometry of M_3 and $M_{2,1}$.”

(03/01) MIT, Baby Algebraic Geometry Seminar: “The birational geometry of M_3 and $M_{2,1}$.”

(10/00) MIT, Baby Algebraic Geometry Seminar: “Classifying Stein Morphisms, with Applications to M_g .”

(01/00) Oklahoma State University, Junior Algebraic Geometry Seminar: “Line Bundles, Sections, and Maps to Projective Spaces.”

(10/99) University of Missouri at Columbia, Algebraic Geometry Conference: “The Cone of Effective Divisors of M_3 .”

(09/99) University of Texas at Austin, Algebra Seminar: “The Cone of Effective Divisors of M_3 .”

Grants, Honors, Awards

- LeFevre Graduate Fellowship, Fall 2000
- Dodd Teaching Excellence Award, Fall 1999
- David Bruton, Jr. Graduate Fellowship, Fall and Summer 1996
- Sigma Xi associate membership, Spring 1991
- Phi Beta Kappa membership, Spring 1990

References

Available on request.