

Rafe Jones

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Department of Mathematics
Brown University, Box 1917
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Education

BROWN UNIVERSITY, Providence, RI

Ph.D., Mathematics, expected May 2005

Advisor: Joe Silverman

Thesis Title: Galois Martingales and the Density of the p-adic Hyperbolic Mandelbrot Set

M.A., Mathematics, May 2001

Topics Exam: The Nonexistence of Generally Convergent Algorithms

ÉCOLE NORMALE SUPÉRIEURE, Paris, France

Visiting student, Département de Mathématiques et Applications, 1998-99

AMHERST COLLEGE, Amherst, MA

B. A., Mathematics and French, June 1998

Summa Cum Laude, with Departmental Distinction in Mathematics

Research Interests

- Dynamics (especially iteration of rational functions over p-adic and finite fields)
- Algebraic Number Theory
- Galois Theory
- Probability Theory

Refereed Publications

"Galois Martingales and the Density of the p-adic Hyperbolic Mandelbrot Set", in preparation

"A Postmodern View of Fractions and the Reciprocals of Fermat Primes." With Jan Pearce, Berea College. *Mathematics Magazine*, April 2000: 83-97.

Selected Presentations

Conference on Algebraic Dynamics, NYU, May 2004, Contributed Talk: "On the Hyperbolic Subset of the p-adic Mandelbrot Set"

Amherst College Undergraduate Math Seminar, December 2003: "How to Draw a Fraction"

Graduate Student Seminar, Brown University: 8 talks 2000-2004

Joint Mathematics Meetings, January 1998, Poster Presentation for undergraduates: "How to Draw a Fraction."

Fellowships and Awards

- Dissertation Fellowship, Brown University, Fall 2003
- VIGRE Graduate Trainee, Brown University, Spring 2002 and Spring 2003
- American Association for the Advancement of Science/American Mathematical Society Mass Media Fellowship, Summer 2001. Host site was Discovery.com in Bethesda, MD
- Allendoerfer Prize for excellence in mathematical exposition. Awarded by the Mathematical Association of America for the paper "A Postmodern View of Fractions and the Reciprocals of Fermat Primes," June 2001

Continued

- University Fellowship, Brown University, 1999
- Amherst College French Department Fellowship for a year of study at the École Normale Supérieure in Paris, France, 1998
- Robert Breusch prize for outstanding senior thesis in mathematics, Amherst College, May 1998
- Basset prize for outstanding work in Physics, Amherst College, May 1998
- Frederick King Turgeon prize for outstanding work in French, Amherst College, May 1998
- Selected for membership in Phi Beta Kappa (Amherst College Chapter), 1998
- First prize, undergraduate research poster competition, Joint Mathematics Meetings, January 1998

Teaching Experience

Brown University, Teaching Fellow

Linear Algebra, Fall 2003

Advanced Placement Calculus, Fall 2002

Introductory Calculus, Part 1, Fall 2001

- Taught 25-30 students under the supervision of a faculty course head, was responsible for: giving lectures; assigning homework; holding office hours and review sessions; maintaining the course web page; and aiding in the writing and grading of exams.

Brown University, Teaching Assistant

Introductory Calculus, Part 1, Spring 2001

Introductory Calculus, Part 2, Fall 2000

- Held two weekly recitation sections with 15 students each, was responsible for: reviewing difficult concepts from the professor's lectures; discussing homework problems; holding office hours and review sessions; and creating and grading weekly quizzes.

Teaching-related Activities

The Sheridan Center for Teaching and Learning in Higher Education, Brown University

Graduate Teaching Fellow, 2004-2005

- Served as one of two graduate fellows for the Center, which involved organizing and running various teacher-training programs for graduate students on campus, including micro-teaching sessions, a New TA Orientation, the Sheridan Teaching Seminar and Certificate Program, and a Summer Syllabus Workshop.

Teaching Consultant, 2004-2005

- Observed both faculty and graduate student lectures, discussion sections, and labs, and provided feedback and constructive criticism based on the observee's written goals and objectives for the session.

Sheridan Center Teaching Certificate I and II

- Received these certificates after completing certain requirements, which include participation in the Sheridan Teaching Seminar and related workshops, a departmental micro-teaching session, and an individual teaching consultation.

Other Publications

"In Code –A Book Review." *Notices of the AMS* April 2003: 460-461

"A Summer at Discovery.com." *Notices of the AMS* June/July 2002: 694-696

"Stern Perfection: Mathematics as a Fine Art." *The Catalyst Special Edition*, Brown University, 2002.

Departmental and Professional Service

Journal of Number Theory, Referee 2001

Graduate Student Seminar, Brown University, Organizer, 2002-2004

Mathematics Resource Center, Brown University, Tutor, Fall 1999- Spring 2001

Professional Memberships

- American Mathematical Society
- Phi Beta Kappa
- Sigma Xi

References

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