

Jen Berg

Curriculum Vitae

EMPLOYMENT

2016 - 2019 **RTG Lovett Instructor**, *Rice University*.

EDUCATION

2010-2016 **Ph.D. Mathematics**, *The University of Texas at Austin*.

Thesis Advisor: José Felipe Voloch

2006-2010 **B.S. Mathematics**, *University of Illinois at Urbana-Champaign*, Highest Distinction.

Thesis Advisor: Andrew Schultz

PUBLICATIONS AND PREPRINTS

1. Insufficiency of the Brauer-Manin obstruction for rational points on Enriques surfaces (with F. Balestrieri, M. Manes, J. Park, and B. Viray)
Accepted to Directions in Number Theory: Proceedings of the WIN3 Workshop.
2. Congruences for Ramanujan's f and ω functions via generalized Borcherds products (with A. Castillo, R. Grizzard, V. Kala, R. Moy, C. Wang)
The Ramanujan Journal. **35** (2014), no. 2, 327–338.
3. p -Groups have unbounded realization multiplicity (with Andrew Schultz)
Proceedings of the AMS. **142** (2014), no. 7, 2281–2290.

IN PREPARATION

1. Obstructions to the integral Hasse principle for generalized affine Châtelet surfaces

HONORS AND AWARDS

- 2016 **Graduate School Dissertation Writing Fellowship**, University of Texas at Austin.
- 2014 **Natural Sciences Council TA Award**, University of Texas at Austin.
- 2011 **Mathematics Department Fellowship**, University of Texas at Austin.
- 2010 **Most Outstanding Major Award**, University of Illinois Urbana Champaign.
- 2006–2010 **Illinois General Assembly Legislative Scholarship**.
- 2006–2008 **James Scholar**, University of Illinois Urbana Champaign.

TEACHING

Fall 2016 **Math 101 (Calculus)**, Rice University.
Instructor

Fall 2016 **Math 499 (Research Seminar for Undergraduates)**, Rice University.

Department of Mathematics, 6100 Main St. – Houston, TX 77005

✉ jb93@rice.edu • 🌐 math.rice.edu/~jb93

1/4

- Fall 2015 **Learning Assistant Coordinator**, University of Texas.
Calculus Lab and undergraduate Learning Assistant supervisor
- Spring 2014 **Graduate Algebra Course**, University of Texas.
Grader
- Fall 2013 **Calculus I**, University of Texas.
Supplemental Instructor
- Spring 2013 **Accelerated Calculus I**, University of Texas.
Teaching Assistant
- Fall 2012 **Algebraic Structures**, University of Texas.
Grader with office hours
- Summer 2012 **Summer Program for Women in Math**, George Washington University.
Teaching Assistant in courses on Solitions and Theory of Computation
- Spring 2012 **Accelerated Calculus II**, University of Texas.
Teaching Assistant
- Fall 2011 **Accelerated Calculus I**, University of Texas.
Teaching Assistant
- Fall 2010 **Calculus I**, University of Texas.
Teaching Assistant
- 2008–2010 **Lead Netmath Mentor**, University of Illinois Urbana Champaign.
Supervisor to mentors for online Netmath courses with Mathematica

SEMINAR AND CONFERENCE TALKS

- 2016 **Algebra, Number Theory, Combinatorics Seminar** (UT Austin)
Thesis Defense: Integral Brauer-Manin obstruction for generalized affine Châtelet surfaces
- Joint Mathematics Meetings.** AMS Special Session on Number Theory and Cryptography (Seattle, WA)
Integral Brauer-Manin obstruction for generalized affine Châtelet surfaces
- 2015 **FRAGMENT Seminar.** (Colorado State University)
Insufficiency of the Brauer-Manin obstruction for Enriques surfaces
- Distinguished Women in Math Pizza Seminar** (UT Austin)
A friendly introduction to the class number conjecture
- AMS Sectional Meeting**, Special Session on Arithmetic Geometry (UNLV)
Insufficiency of the Brauer-Manin obstruction for Enriques surfaces
- Number Theory and Algebraic Geometry Seminar** (Rice University)
Insufficiency of the Brauer-Manin obstruction for Enriques surfaces
- Algebra, Number Theory, Combinatorics Seminar** (UT Austin)
Brauer groups of affine Châtelet surfaces
- 2014 **Algebra, Number Theory, Combinatorics Seminar** (UT Austin)
Transcendental Brauer-Manin obstruction for Enriques surfaces over \mathbb{Q}

- Student Number Theory Seminar** (UT Austin)
 ◦ *Computing the Brauer group of affine surfaces*
 ◦ *Obstructions to rational and integral points on varieties*
- AMS Sectional Meeting**, Special Session on Algorithms in Arithmetic Geometry (University of Wisconsin, Eau-Claire)
Brauer Manin obstruction for a family of surfaces
- 2013 **Algebra, Number Theory, Combinatorics Seminar** (UT Austin)
The Brauer-Manin obstruction to integral points
- Distinguished Women in Math Pizza Seminar**
An introduction to ordinary and supersingular elliptic curves
- 2012 **Midwest Number Theory Conference (MNTCG9)** (UIUC)
p-groups have unbounded realization multiplicity
- Second Year Seminar** (UT Austin)
Introduction to elliptic curves and modular forms
- 2011 **Sophex** (UT Austin)
 ◦ *Primality testing: The AKS algorithm*
 ◦ *Modular forms on $SL_2(\mathbb{Z})$*
- Student Number Theory Seminar** (UT Austin)
 ◦ *An introduction to quadratic forms*
 ◦ *Dirichlet's theorem on primes in arithmetic progression*
- 2010 **AMS/MAA Joint Meetings**, Special Session on Undergraduate Research (San Francisco, CA)
Galois groups via Galois modules in Artin-Schreier theory

ADDITIONAL CONFERENCES AND WORKSOPS ATTENDED

- 2016 **Arizona Winter School.** (Tucson, AZ)
- 2015 **Women in Sage Days 6.** (La Jolla, CA)
Project with Kristen Lauter, Lily Khadjavi, Jennifer Balakrishnan, and Alyson Deines
- Rational Points Workshop** (IMPA, Rio de Janeiro, Brazil)
Arizona Winter School: Arithmetic of Higher Dimensional Varieties
Project with Bianca Viray
- Joint Mathematics Meetings** (San Antonio, TX)
- 2014 **Women in Numbers 3** (Banff, AB, Canada).
Project with Bianca Viray and Michelle Manes
- Arizona Winter School:** Arithmetic Statistics (Tucson, AZ)
Introductory Workshop: Model Theory, Arithmetic Geometry, and Number Theory (MSRI)
Connections for Women: Model theory and its interactions with number theory and arithmetic geometry (MSRI)
- 2013 **Women in Sage Days 4** (Seattle, WA).
Project with Kristen Lauter and Lily Khadjavi

Arizona Winter School: Modular Forms and Modular Curves (Tuscon, AZ)
Project with Ken Ono

Joint Mathematics Meetings (San Diego, CA)

2012 **Joint Mathematics Meetings** (Boston, MA)

SERVICE

2014–2016 **Distinguished Women in Mathematics Lecture Series Co-organizer**, UT Austin.

2014–2016 **Directed Reading Program Mentor**, UT Austin.

Mentored undergraduate students in representation theory of finite groups and p -adic analysis.

2012–2014 **Junior Number Theory Seminar Organizer**, UT Austin.

Organized the weekly seminar for graduate students in algebra and number theory.