DJ Bruce

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Education

- **University of Wisconsin** — Madison, WI
  Ph.D. Mathematics — *2014 – Present*
    - Advisor: Daniel Erman
- **University of Wisconsin** — Madison, WI
  M.A. Mathematics — *2014 – 2016*
- **University of Michigan** — Ann Arbor, MI
  B.S. in Mathematics & Political Science — *2010 – 2014*
    - With High Honors and Distinction

Publications

4. The degree of $SO(n)$, (with M. Brandt, T. Brysiewicz, R. Krone, and E. Robeva), *Submitted*, arXiv:1701.03200.

3. A probabilistic approach to systems of parameters and Noether normalization, (with D. Erman), *Submitted*, arXiv:1604.01704.

2. Monomial valuations, cusp singularities, and continued fractions, (with M. Logue and R. Walker), *Journal of Commutative Algebra*, **7** (2015) no. 4, 495-522, sarXiv:1311.6493.

1. Betti tables of reducible algebraic curves, (with P. Kao, E. Nash, B. Perez, and P. Vermeire), *Proc. Amer. Math. Soc.* **142** (2014) 4039-4051, arXiv:1210.3064.

Awards, Grants & Honors

- **Graduate Research Fellowship** — 2015 –
  National Science Foundation
- **Professional Development Grant** - **($1000)** — December 2016
  Graduate School – University of Wisconsin
- **Outstanding Achievement in Mathematics** — May 2014
  Dept. of Mathematics – University of Michigan
- **Phi Beta Kappa** — April 2014
  University of Michigan

- **Chancellor's Opportunity Award** April 2014
  University of Wisconsin

Research Presentations

- **A Probabilistic Approach to Noether Normalization (Poster)** Fields Institute
  Introductory Workshop: Combinatorial Algebraic Geometry *August 2016*
- **A Probabilistic Approach to Noether Normalization (Poster)** University of Michigan
  Commutative Algebra and Its Interactions with Algebraic Geometry *July 2016*
- **A Probabilistic Approach to Noether Normalization (Poster)** University of Notre Dame
  Midwest Commutative Algebra and Algebraic Geometry Conference *May 2016*
- **Noether Normalization in Families** University of Wisconsin
  Algebraic Geometry Seminar *April 2016*
- **Betti Tables of Graph Curves** University of Illinois - Chicago
  Midwest Algebraic Geometry Graduate Conference *April 2015*
- **Betti Diagrams of Graph Curves** University of Wisconsin
  Algebraic Geometry Seminar *December 2014*

Teaching Experience

- **Math 132: Problem Solving in Algebra, Statistics, & Probability** University of Wisconsin
  Instructor *Spring 2015*
- **Math 221: Calculus and Analytic Geometry I** University of Wisconsin
  Teaching Assistant *Fall 2014*
- **Math 310: Explorations in Randomness** University of Michigan
  Course Assistant *Winter 2014*
- **Math 490: Introduction to Topology** University of Michigan
  Course Assistant *Fall 2013*
- **Math 351: Principals of Analysis** University of Michigan
  Course Assistant *Winter 2013*
- **Math 105: Data, Functions, and Graphs** University of Michigan
  Course Assistant *Fall 2012*

Outreach Activities

- **Madison Math Circle** University of Wisconsin
  Lead Organizer *January 2016 – Present*
- **Madison Math Circle** University of Wisconsin
  Student Volunteer *January 2015 – Present*
- **Michigan Math Circle** University of Michigan
  Organizer *January 2013 – June 2014*

Service

- **Committee on Inclusivity and Diversity**   UW Dept. of Mathematics
  Member   *November 2016 – Present*
- **Committee on TA Pay and Performance**   UW Dept. of Mathematics
  Member   *September 2015 – Present*
- **AMS Graduate Student Blog**   American Mathematical Society
  Managing Editor   *September 2015 – Present*
- **Instructor Excellence Program**   UW Dept. of Mathematics
  Teaching Mentor   *September 2015 – May 2016*
- **Society of Undergraduate Math Students**   University of Michigan
  President and Founder   *December 2012 – June 2014*

Memberships

- **Society of Industrial and Applied Mathematics**   January 2017 – Present

- **Association for Women in Mathematics**   January 2016 – Present

- **American Mathematical Society**   September 2014 – Present