Juliette Bruce

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Employment & Education

- **Dartmouth College**   Hanover, NH
  Assistant Professor   *2024 – Present*

- **Brown University**   Providence, RI
  Postdoctoral Research Associate   *2022 – 2024*

- **University of California, Berkeley**   Berkeley, CA
  NSF Postdoctoral Research Fellow   *2020– 2022*

- **University of Wisconsin**   Madison, WI
  Ph.D. Mathematics   *2014 – August 2020*

- **University of Michigan**   Ann Arbor, MI
  B.S. in Mathematics & Political Science   *2010 – 2014*

Research Interests

Algebraic Geometry, Commutative Algebra, Arithmetic Geometry. Specifically, homological and combinatorial methods in algebraic geometry and commutative algebra.

Selected Publications & Preprints

5. J. Bruce, L. Cranton Heller, M. Sayrafi. Characterizing Multigraded Regularity on Products of Projective Space. *Submitted*. E-Print: arXiv:2110.10705

4. M. Brandt, J. Bruce, M. Chan, M. Melo, G. Moreland, C. Wolfe. On the Top-weight Cohomology of $\mathcal{A}_g$. *Geometry & Topology*, To appear. E-Print: arXiv:2012.02892

3. J. Bruce and D. Erman. A probabilistic approach to systems of parameters and Noether normalization. *Algebra and Number Theory*, **13** (2019), no. 9, 2081–2102.

2. J. Bruce, D. Erman, S. Goldstein, and J. Yang. Conjectures and computations about Veronese syzygies. *Experimental Mathematics*, **29** (2020), 398-413.

1. M. Brandt, J. Bruce, T. Brysiewicz, R. Krone, and E. Robeva. The degree of $SO(n)$. *Combinatorial Algebraic Geometry*, 207-224, Fields Inst. Commun. **80** (2017).

Selected Awards & Honors & Grants

- **Conference Grants DMS 2332592/1908799/1812462 – $73,000**   2018 – Present
  National Science Foundation & Fields Institue

- **Postdoctoral Research Fellowship – $150,000** 2020 – 2022
  National Science Foundation
- **Capstone Teaching Award** October 2019
  Awarded to one student for an exceptional record of teaching excellence.
- **Teaching Assistant Award for Exceptional Service** February 2018
  Campus-wide award recognizing TA's who perform exceptional service

Conferences for Graduate Students Organized

- **GEMS in Commutative Algebra** University of Minnesota
- **GEMS in Combinatorics (x2)** Virtually / AIM
- **Trans Math Day (x3)** Held Virtually
- **Spec($\overline{\mathbb{Q}}$)** Fields Institute
- **GWCAWMMG** University of Minnesota

Outreach & Service Activities Aimed at Graduate Students

- **Spectra: The Association for LGBTQ+ Mathematicians**
  President, Immediate Past President *September 2020 – Present*
- **MSRI: Committee on Women in Mathematics**
  Committee Member *March 2023 – Present*
- **Michigan Research Experience for Graduate Students** University of Michigan
  Project Leader *July – August 2023*
  - Lead a diverse group of 4 early-stage graduate students on a project in geometry.
- **Algebraic Geometry in the Time of COVID** Held Virtually
  Shepard *June 2020 – October 2020*
  - A virtual, open access introductory graduate course with 1600 participants.
- **Graduate Peer Mentoring** University of Wisconsin
  Mentor *September 2018 – December 2018*
  - Mentored 5 first year graduate students from minority genders, organizing monthly dinners where the mentees could discuss issues they were facing.

Teaching Experience

- **Math 221: Calculus and Analytic Geometry I** University of Wisconsin
  Teaching Assistant (Average score 4.9/5.0) *Fall 2014/2018/2019*
  - Selected as a TA coordinator in 2018 and 2019, and was responsible for overseeing all other TA's and mentoring first year TA's.
- **Math 228: Wisconsin Emerging Scholars** University of Wisconsin
  Instructor (Average score: 5.0/5.0) *Fall 2018*
  - Course providing students from underrepresented groups additional support.