

## Juliette Bruce's Diversity Statement

**I. Introduction.** I believe strongly in the importance of inclusivity, diversity, and justice, and I am passionate about promoting these values within the mathematical community. Going forward, I am excited to continue working hard to promote these values through my research, teaching, and service.

**II. Organizational Service.** I have organized 10+ national/international conferences including *M2@UW* (45 participants), *Geometry and Arithmetic of Surfaces* (40 participants), *Graduate Workshop in Commutative Algebra for Women & Mathematicians of Minority Genders (GWCAWMMG)* (35 participants), *CAZoom* (70 participants), *Western Algebraic Geometry Symposium* (100 participants), *GEMS of Combinatorics* (40 participants), *Spec( $\mathbb{Q}$ )* (50 participants), *BATMOBILE* (30 participants), *GEMS of Combinatorics II* (30 participants), and *GEMS of Commutative Algebra* (40 participants). Additionally, I organized three special sessions at AMS Sectional Meetings and the Joint Math Meetings.

Multiple of these conferences were aimed at supporting mathematicians from underrepresented groups. For example, *GWCAWMMG* focused on forming communities of women and non-binary researchers, and *Spec( $\mathbb{Q}$ )* highlighted the research of LGBTQ+ mathematicians in algebra, geometry, and number theory. Further, the “GEMS” workshops sought to build a diverse community of mathematicians to address gender equity in the mathematics from new perspectives. I am interested in expanding these “GEMS” workshops to other areas of mathematics to create cross-field discussions broadening the notion of gender equity in mathematics.

**III. National & International Advocacy.** As a postdoc, I looked to deepen the impact of my work by attempting to promote underrepresented groups in mathematics beyond just campus. For example, I have worked with the Executive Committee of the *Association for Women in Mathematics* to consider ways they could expand their support of women and non-binary mathematicians. In Winter 2023 I joined MSRI's *Committee on Women in Mathematics*. Since Fall 2020 I have organized *Trans Math Day*, an annual virtual conference promoting the work of transgender and non-binary mathematicians. This conference regularly has 50 participants. Highlighting the importance of such conferences one participant said, “I’ve been really considering leaving mathematics. [Trans Math Day] reminded me why I’m here and why I want to stay. If a conference like this had been around for me five years ago, my life would have been a lot better.” Further, I have been a board member for *Spectra: The Association for LGBTQ+ Mathematicians* since 2020, including as the inaugural president in 2022. In this role, I have overseen the growth and formalization of the organization, including the creation and adoption of bylaws, the creation of an invited lecture at the Joint Mathematics Meetings, and a \$20,000+ fundraising campaign. *Spectra* has 500 members.

Going forward I am excited to continue my work supporting LGBTQ+ students, and would love to continue building organizations to do so. In particular, given the amazing successes of programs like MSRI-UP and the EDGE Program, I would love to organize a summer REU program specifically aimed at supporting and promoting LGBTQ+ mathematicians. Further, I am in the early stages of planning a mentorship program to help guide LGBTQ+ undergraduates through the process of applying to graduate programs in mathematics and helping young LGBTQ+ graduate students establish themselves.

**IV. Mentoring.** Inspired by the mentoring that helped me navigate the challenges of being a woman in mathematics, I have worked hard to mentor people from underrepresented groups. While a graduate student, I led reading courses with three undergraduates. One of these students, an undergraduate woman, worked with me for over a year, during which time I helped her apply for summer research projects. Working with *Girls' Math Night Out* I lead two girls in high school through a project exploring cryptography. During 2018-2019, I mentored 6 first-year graduate students (all women, non-binary students, or students of color).

As a postdoc, I began research projects with three graduate students (a majority of whom identify with a generally underrepresented group). These projects have resulted in two pre-prints, with additional projects still ongoing. During 2022, I did a reading course with a first-year graduate woman on algebraic geometry. Additionally, I advised two summer research projects for undergraduate students. The first of these projects ran virtually during Summer 2021 with 6 undergraduates. In Summer 2022 I advised an undergraduate student on a research project related to my work on syzygies. This work is ongoing and will hopefully result in a paper. This student is now in graduate school for math and was awarded an NSF Graduate Fellowship.