Diversity Statement

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Mathematics is unique among the sciences in how little equipment or formal training is needed to establish something groundbreaking. Despite the massive amount of mathematics created in recent years, it is still possible in principle for a complete beginner to come up with a novel idea; we do not need centrifuges or particle accelerators – rational and focused thought can suffice. I firmly believe that anyone with the desire to do mathematics can become a mathematician. Therefore, it is particularly disheartening to meet and hear about so many people, specifically young people, who have absorbed the notion that they are simply not cut out for mathematics, often due to not matching the race or gender or personality of a 'typical mathematician'. I hope that as a community we can combat this phenomenon. In this document I will describe my past activities in this regard, as well as some future plans. Much of this can be found within my CV and my teaching statement, since this philosophy is interwoven with my professional pursuits and teaching practices.

Mentoring and student leadership. In college, and later in graduate school, I was a resident assistant and received training in multicultural awareness, responding to concerns related to mental health, and addressing the needs of a diverse student body. As an RA, I was close to many of my residents, offering support and encouragement as they navigated college life. While I was an undergraduate, I was a peer tutor with the campus Access Opportunity Program, an initiative serving first-generation college students, minority students, and students from low-income or rural areas. I worked one-on-one with multiple students on physics, biology, and mathematics. Later, at Rice University, I was an instructor with the Rice Emerging Scholars Program – a summer bridge program for rising Rice freshmen from under-resourced high schools. I was twice a volunteer at graduate orientation for the Office of International Students and Scholars; my responsibilities included serving as a reference point for information for incoming international students. I participated in the Queers & Allies training program run by the Rice Wellness Center. In 2011, I was one of three students at the Rice Graduate Student Association responsible for organizing the graduate student orientation. Among other activities, we arranged several panel discussions addressing the needs of graduate students, including non-traditional students and students with families. In 2013, I was proud to receive the Robert Lowry Patten award from the Rice Graduate Student Association, recognizing service towards improving graduate student life and education.

As a postdoc at Brandeis University, I am the faculty advisor to 18 undergraduate students, primarily mathematics majors, of whom ten are international students and seven are women. To my advisees, and my students in general, I am often a resource for information about the mathematics major, the field of mathematics in general, applying to graduate school, etc. Having been an international student myself, I am frequently able to provide insight to my students regarding resources available to them and strategies to address common concerns of international students. Many of my students have continued to visit my office for conversations about their academic life and future plans long after courses have ended.

Teaching practices. One of my primary goals in teaching is to create an inclusive climate within my classroom and office hours where each student feels valued and welcome. To this end, I consistently emphasize a growth mindset – the principle that mathematical ability is built over time with practice rather than due to some innate gift. I start each course with a short survey to understand my students' mathematical background as well as their reasons for taking the course, both of which can vary widely, and then tailor the course based on their responses. If I notice that a particular student is missing a course that would be helpful to them, I will talk to them personally with advice on how to address this. My courses incorporate multi-faceted assessments, such as problem sets, essays, and presentations, to give an opportunity for students to excel in activities most suited to their

individual skill sets. I regularly seek feedback from my students to ascertain how to modify a course to best suit their needs. For instance, a student in my undergraduate topology course pointed out that when I ask questions in class, they found it challenging to answer with little time to gather their thoughts. Since then, whenever I pose a question I consciously force myself to give the class at least one full minute of silence to think before I start the discussion. This small change has massively improved the depth and volume of class discussions, and I am grateful to my student who felt comfortable enough to bring this up.

In recent courses, I have actively encouraged students to work in groups. Students from underrepresented communities often suffer in classes due to not having a support system among their classmates. Having the instructor assign student groups helps to offset this; each student has a natural choice of classmates to work with and moreover, they observe that their peers from more traditional backgrounds are often struggling with the course material just as much as they are themselves. However, there is a need to be conscious of the diversity of students when forming student groups. For instance, several of my female students had confided in me that they felt uncomfortable speaking up when they are the only woman in a group. Non-native speakers had previously revealed their reticence in group interactions due to self-consciousness regarding their ability to speak in English. There is also a need to balance naturally gregarious students and those who are more reserved. I made a sincere effort to consider all of these factors when assigning student groups in my proofs course, ensuring that each group had at least two women, and a balance of personalities, mathematical strengths, and inclination to speak out.

Lastly, I am open to varied approaches towards accommodating students' needs. At Brandeis University, a student in my advanced undergraduate course told me that they needed to drop the course since they could not continue to come to class while balancing their work schedule and caring for their daughter, for whom they were the sole caregiver. I suggested that they enroll in a reading course with me instead – we worked around their schedule to meet to discuss the course material, and they completed the same requirements as the students in my traditional course. I am happy to say that they were one of my strongest students that semester. Similarly, in another advanced course, one of my students had recently been diagnosed with bipolar disorder, and I was able to work with them to help them meet course requirements and support them as they needed.

Professional service. At the 2017 Joint Mathematics Meetings in Atlanta, I am co-organizing an AMS special session on work by women in topology. Our speakers consist of women from a broad range of institutions, career levels, and subfields. The goal of the session is to help establish collaborative and mentoring relationships for early career female mathematicians, and showcase the depth of research currently being produced by female topologists. I was also recently a judge for the annual essay contest for biographies of contemporary women in mathematics organized by the Association for Women in Mathematics. As a graduate student, I was a panelist at Sonia Kovalevsky Day at the University of Wisconsin-Eau Claire, addressing ways to increase diversity in STEM fields. I was also a panelist for a discussion on women in graduate school held by the Women's Resource Center at Rice University in 2012. As an undergraduate, I was a panelist for a discussion on undergraduate summer research programs held at the Nebraska Conference for Undergraduate Women in Mathematics. The audience consisted of undergraduate women interested in graduate school and careers in mathematics. I attended this conference twice as an undergraduate myself and recognize it to be a valuable opportunity for young women.

I am sincerely interested in taking an active role in recruiting women and students from other historically underrepresented groups, as well as addressing the needs of students with diverse socioeconomic backgrounds and learning styles, and students with disabilities. I believe it is valuable for students to interact with an instructor who herself does not fit the mold of a 'typical mathematician'. I intend to further hone my teaching practices to make my courses accessible and inclusive for all students, and I hope to continue to participate in outreach and mentorship.