

Department of Mathematics
Emory University
Atlanta, GA 30322

February 14, 2016

Dear Professor Ono,

I am applying to the REU at Emory University, and I am particularly interested in the project on elliptic curves and Galois representations. If accepted, I would gain valuable knowledge and experience that would prepare me for graduate school in mathematics.

I have always loved math, and my interest has only grown as I continue to take more advanced courses and pursue more opportunities in research. Based on my experience with coursework and research at Williams College outlined in my research statement, I plan to attend graduate school in mathematics and pursue a career in academia as a math professor. Participating in this REU would help prepare me for this path by allowing me to explore number theory and arithmetic geometry in much more depth than what is typically covered in college courses, thereby enabling me to refine my interests and figure out which topics truly engage and excite me. This would help me narrow my focus for future research and equip me with the knowledge and skills necessary to excel in graduate school and in academia.

In addition, I am interested in the Emory REU because it would welcome me into a community of mathematicians, both students and faculty members, who would push me intellectually, help foster my interest in math, and support me. The structure of the program would allow me both to work independently and sharpen my critical thinking and, more importantly, to collaborate with other students coming from different mathematical backgrounds. Through working with a small research group, I would gain a broader understanding of ways of approaching problems, and this skill set would prepare me for graduate school. Furthermore, participating in this REU would allow me to interact with the larger math community. By attending conferences and poster sessions, I would discover new advancements in different fields of math and learn how to present research in an effective and accessible way, both essential knowledge and skills for my intended career path as a math professor.

I am applying to the Emory REU not only for the practical skills with which it would provide me but also because I believe that the program would foster an incredible sense of community. During my experience at Williams the past two summers, I found myself energized and inspired by the tight-knit math and physics communities, which reaffirmed my love of math and provided me with support as I worked through the struggles and successes of research. The summer community at Emory seems to function in a similar way. I would love to have the opportunity to spend the summer with a group of students and faculty members who share my passion for math, exploring open problems, refining my interests, and becoming a part of a close community.

Sincerely,

Sarah M. Fleming