

I am committed to breaking down representation and financial barriers to astronomy. I recognize the lack of underrepresented minorities (URMs) at all stages in STEM careers, and recognize there are many approaches to take to help fix the leaky pipeline.¹ As a Fellow, I will focus on reforming graduate admissions and mentoring at my host institution.

Graduate Admissions Reform: I am the founder and lead organizer of the UChicago “Virtual Graduate Admissions Information Session” which improves transparency in our admissions process. This event allows potential applicants to chat with members of the admissions committee to gain insight into the admissions process. We directly advertised this event to physics & astronomy departments across 58 recognized historically Black and Hispanic serving universities.¹ All participants received application fee waivers to help ease the financial burden of applying to graduate school. This event is held over Zoom, allowing the participation of 134 interested applicants from 13 countries. I also led the Graduate Admissions Working Group, a group of students, postdocs, and faculty who advocate for changes in the admissions process. These changes have included removing submission of General and Physics GREs scores and providing resources on how to write an application. These changes resulted in nearly doubling the number of applications from URMs (from 26 to 47). This year, I am eager to serve as the student representative on the official Graduate Admissions Committee and advocate for URM applicants who would succeed at UChicago.

Mentorship: Direct mentorship and support of underrepresented students, even at the undergraduate and graduate levels, will help improve DEI at the graduate to faculty level.² As such, I have directly mentored an underrepresented undergraduate student at UChicago during this past summer. I firmly believe no undergraduate should work without financial support, which can be a significant barrier for those from underrepresented groups wishing to pursue research opportunities in undergrad.³ Because I do not have my own research budget, I actively put in several grants to ensure my student, Rowen, was funded. We were awarded \$8,500 to support her for five months of research. I ensured the project would help her develop technical skills she wanted to improve before applying to graduate school. I will continue to support Rowen throughout her career.

Nationwide programs: I have volunteered with “Skype a Scientist” (SaS) and “Letters to a Pre-Scientist” (LPS) for three years. SaS connects classrooms, scout troops, individual and families with scientists to demystify STEM. I have talked with 20 groups across the globe through this program. LPS works closely with low-income classrooms to equally distribute opportunities to schools which may be lacking in STEM resources. I have had three pen-pals (Grades 4-6) through this program.

Moving Forward: I will bring the skill set I have developed to improve DEI efforts to any of my host institutions. To build upon my graduate admissions work, I will start an astronomy-focused information and recruitment event. While in-person events are ideal, I have found that virtual events have a much broader reach (134 total participants) and allows the necessary flexibility for students and working professionals, since they do not have to travel. I will continue mentoring underrepresented undergraduate students at my host institution. These students will be funded through a variety of routes only available at Astronomy Summer Research Experience for Undergraduates, bridge programs, and internal undergraduate scholars programs. Additionally, I will continue to partner with both SaS and LPS throughout my fellowship.

¹Rudolph, A., Basri, G., Agüeros, M., et al. 2020, Bulletin of the AAS, 51

²National Academies of Sciences, 2019, The Science of Effective Mentorship in STEM

³Longmire-Avital, B. 2018, Seven Potential Barriers to Engaging in Undergraduate Research for HURMS