

Kirk Long—Ford Predoctoral Fellowship Application—Personal Statement

“The needs of the many outweigh the needs of the few” —Spock, *The Wrath of Khan*.

It should be no surprise that the *Star Trek* shows and films rank among my favorites, but while Kirk and I may share a name I’ve always felt a greater connection to the Enterprise’s science officer. I’ve embraced this communal Vulcan ideology from an early age—family circumstances forced me to grow up faster than I might have liked, and by age 14 I had become a semi-parent as the eldest of four children while my newly single mother worked multiple jobs to provide for us. This sudden transformation from carefree boyhood to pseudo-adulthood provoked a lot of serious introspection—the most powerful result being the realization that even a minute change in initial conditions could have drastically altered who I was, what I believed, and how I interacted with the world. This profoundly simple realization left me with the foundations of a robust set of internal ideals that still inform who I am today, as well as motivate my application to become a Ford fellow.

The largest reason I want to complete an advanced degree in astrophysics is because I’m transfixed by the subject—it’s the intersection of science and dreaming. I am passionate both about increasing my own understanding as well as spreading the good word to others, and I’ve been fortunate to have many fulfilling opportunities to put my personal ideals to work in concert with my passion for physics, the most impactful of which has been my experience volunteering in our local prisons. Last year I read a moving book by civil rights lawyer and activist Bryan Stevenson entitled *Just Mercy*, which imparted upon me a new belief—we are all better than the worst thing we’ve done. I was inspired by this text to start a program in a local prison teaching physics and programming skills to inmates, and it’s been the most rewarding thing I’ve ever done. These are people society has largely discarded, yet nearly all of them are inherently good people who made a bad choice, with many additionally being the victims of poor circumstances, societal prejudices, and unjust laws. I empathize greatly with those of different circumstances like the inmates I’ve worked with because I can see

how easily—with a few different choices or circumstances—I could have been among them. They've made me a better teacher, and I've taken those experiences to refine my work as a more traditional teacher in my roles as a lab instructor and physics tutor in my department. Since starting this outreach endeavor some local news reports have been done on my work, which has enabled me to expand into a second prison as well as recruit new volunteers to offer services in a variety of disciplines for this incredibly underserved population. I plan to keep up this momentum so that when I leave for graduate school there is a strong program in place that will continue without me, and I plan to continue serving in a similar capacity at Berkeley.

While I enjoy being a physics evangelist of sorts, I'm also passionate about exploring the unknown—to boldly go where we haven't gone before. I've been privileged to find a wonderful professor and mentor—Prof. Daryl Macomb—who I've worked intimately with outside of my usual coursework in learning the practical details involved in studying the mysteries of the cosmos. As a result I am confident I can distill my innate curiosity into tangible data and analysis, something that's recounted in further detail in my research statement. I hope to remain in academia as long as possible—helping both to unlock some tiny part of the cosmos as well as to inspire and uplift others in the field through teaching and outreach. This is ultimately why Berkeley is my top choice program in continuing my education—they foster diversity in ways few institutions do. Wherever I end up, however, it's imperative to me that my future work not be done in an echo-chamber, but instead with the input and counsel of a plethora of others from as many backgrounds as possible—something becoming a Ford fellow would grant me unparalleled access to. To that end I humbly submit my application to join the prestigious membership of Ford fellows, that together we might gain some new understanding of the cosmos while simultaneously making it a little better for everyone along the way.