

My Experience in the Freshman Research Initiative

As an undergraduate at The University of Texas at Austin, you are afforded more opportunities than you can dream of, however, joining the [Freshmen Research Initiative \(FRI\)](#) was the absolute best thing I could have done, both personally and professionally. I wholeheartedly believe my experiences in the FRI have catapulted me to where I am today.

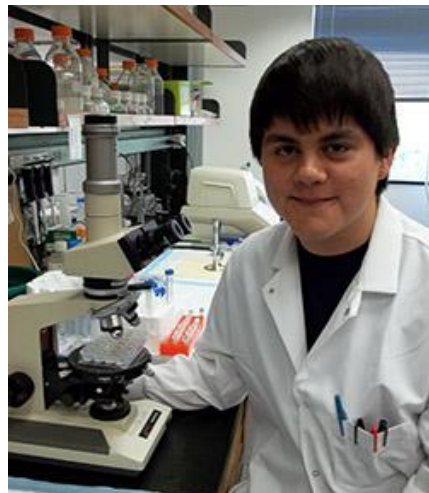
Being a first generation, Mexican-American college student born and raised in the border town, Brownsville, Texas, I did not know of the opportunity in graduate school and research, coming from my geographical and educational background. Joining the FRI completely changed the direction of my career, from medical school to graduate school. As a Nationally Registered Emergency Medical Technician, with over 100 hours of doctor shadowing in numerous hospital departments, including emergency and surgical rooms, I had a good idea of what a career in medicine would encompass. While becoming a medical doctor remains a career pathway that I find completely honorable, I knew it was not the route for me after going through the FRI. It was after joining the [Virtual Drug Screening Stream](#) in FRI that I realized I wanted to pursue graduate studies and carry out a significant, valuable thesis project, where I would be on the frontier of discovery.

The Virtual Drug Screening (VDS) stream allowed me much creative freedom, from the conception of my project, deciding my target protein, to later deciding to carry out experiments not routinely done in the stream, such as crystallization trials. I wanted to have innovative, so-called, light bulb moments. I was no longer subject to the routine, unvarying lab experiments carried out in introductory biology or chemistry laboratories. I had this drive for discovery that made me consider every experiment that might aid the progress of my project as a real possibility, regardless of the resources available to me.

My time in the FRI was a period of extreme growth. It allowed me to learn to read scientific literature, to teach undergraduate students, to prepare research presentations and publications (I, along with Ruoyi Pu, brought our *Francisella tularensis* histidine acid phosphatase project to journal review, and that we have both graduated, it is now being taken over by another VDS student), and to present at conferences and symposiums. The FRI is set up in a way that allows students without any background in the research field of their stream to gain an impressive amount of knowledge and skills in the field. I am proud to say I entered with no research background, became a mentor, and ultimately became the undergraduate TA. This path provided me with an impressive amount of teaching experience.

The FRI is a model program for many institutions across the country. When the FRI held an in-house conference, with tours and presentations by the students of the FRI, it was very clear to me that the attendees were excited about creating such an initiative at their home campus. Even on the UT campus, many professors in different departments are eager to get involved in the FRI, such as Dr. Fast in College of Pharmacy, who formed a collaborative project with the Virtual Drug Screening stream. Similarly, I get very excited when asked about the FRI, it's hard not to, after all the opportunities it has afforded many of my peers and I.

At [Rice University](#), where I am a first year graduate student, I plan to work in the lab of Dr. George Phillips, who I previously met at an undergraduate symposium where I presented my



work in the Virtual Drug Screening stream of the FRI. Dr. Phillips then asked me to work in his lab in the summer of 2013.

I will forever sing the praises of FRI. FRI allowed me to get to where I am today, where I know I want to be. It is a great part of who I am today and who I want to be tomorrow. It allowed me to acquire not only many technical skills that will aid in my pursuit of a graduate education, but also intangible skills, including my strong work ethic, commitment to a project, analytical troubleshooting skills, and the appreciation for delayed gratification that comes with the inevitable setbacks that one comes across in research. I feel I have already been successful at teaching and mentoring others in the Virtual Drug Screening Stream and I eventually hope to inspire more scientists of all backgrounds. I am forever indebted to everyone who played a role in establishing and maintaining, including my peers, the mentors, and faculty of the FRI, but especially to my mentor and friend, Dr. Josh Beckham.

-Joey Olmos