My internship this summer was with the Center for Energy Development and Health for the Energy Institute here at Colorado State University. My main focus was around emissions of different cookstoves and developing a new testing protocol for testing cookstoves under the advisory of a current PHD candidate Kelsey. Approximately 3 billion people in rural areas all over the world use cookstoves several times a day to cook food and warm their homes. These cookstoves create harmful emissions, both for human health and the climate, that need to be regulated. The research being performed at the Energy Institute involves material testing for stoves, developing improved cookstoves, and furthering research on emissions based off different user methods. My project for the summer was focused on firepower and how it relates to emissions. To improve data collection, Kelsey and I developed a new testing protocol that would increase emission collection and make it easier to gather information on emissions in the field.

This protocol was focused around firepower, or the energy output, when using the stove for cooking purposes. It is the goal then to be able to quantify the emissions created at each firepower, gather information in the field on firepower using temperature, and then estimate the emissions from this data to put into a climate model. Unfortunately, my internship was not long enough to see the whole process, but I was fortunate enough to be the forerunner in designing the protocol and running all of the tests.

Although it was a very short research internship, I still learned so much and was able to develop results on my own. Some of the equipment I learned included gravimetric particulate matter, transmissometer, 5-gas FDIR, ECOM,
along with many other air sampling devices. I initially took this internship just because I needed one to graduate and did not think it would help me out in the future, but it ended up opening my eyes to a whole new community of people and problems and helped me answer some questions I had about my future. This internship was not focused around occupational safety, but there are components that were very relatable and I developed so many new skills that will be applicable in any future career. This internship taught me that research was not necessarily something I want to do in the future and I am so glad I was able to determine that for myself before I graduated.