Christina Shields
Fish House Fund 2014

Swaziland!

In the fall of 2013, I learned of a project about to be conducted by the Baylor International Pediatric Aids Initiative in Swaziland investigating the immunological effects of a parasite called helminth on tuberculosis and AIDS. As a biochemistry major working in an immunology lab at Baylor, I was immediately intrigued by this project, and I began to reach out to people within Baylor to see if there was any way I could get involved. They essentially said that if I could secure my own funding, I could join the project. That's where the Fish House Fund came in. The Fish House Fund covered my airfare to Swaziland and let me join this project, which is the first major research initiative conducted by Baylor at one of their 9 international pediatric AIDS clinics.

Before going to Swaziland, I created the patient enrollment forms that are currently being used to enlist new patients into the study. During winter break (because of the Fish House Fund) I had the opportunity to go to Swaziland and serve in the function of quality control to make sure the project was going smoothly. I interfaced with the doctors to fine-tune the enrollment documents, and I trained a new lab technician how to isolate peripheral blood mononuclear cells (PBMCs) from whole-blood— a technique that is crucial to the progression of the project. This lab is now the first lab in the country with technicians trained in this technique. Based on recent feedback, the PBMC isolation has been going very well since I left.

I was excited to participate in this project for a number of reasons. First and foremost, I was (and still am) extremely interested in the content of the study. HIV/AIDS is a devastating illness that affects 1 in 4 adults in Swaziland, making Swaziland the country with the highest prevalence of HIV in the world. Swaziland's incidence rate of TB is also the highest in the world, and about 80% of those infected are also infected with HIV. This has interesting immunological consequences. In addition, it seems that TB patients that are co-infected with HIV follow a different disease progression from those infected with helminth. This project is investigating the immunological differences between these two types of patients. The biochemistry nerd in me thinks this is one of the most interesting immunological phenomena like, ever.

I was also drawn to this project for more personal reasons. My uncle worked in Southern Africa for 14 years trying to stem the spread of infectious diseases, such as AIDS and TB, across Africa. Therefore, I grew up hearing his accounts of the intricate social and medical issues surrounding the spread of such diseases, as well as the deep sense of satisfaction that his job has given him. There was a large part of me that was drawn to the helminth/TB study in Swaziland because I wanted to understand what my uncle had described for so many years.

Finally, as an idealistic college student, I'm eager to leave my mark on the world — however small that mark may be. I saw this project as an opportunity to do just that. I wanted to contribute to something greater than myself that had the potential to impact many lives in an extremely positive way. I know that sounds a little far-fetched for a few weeks of research in a foreign country, but I honestly believe that our actions and the impressions we leave can outlive us and our time spent in any one place. Therefore, I'm really proud of what I was able to contribute in such a short time. While I'm not currently onsite isolating PBMCs and directly

conducting the research project, the people I worked with and trained are, and they're carrying my contribution forward.

What I hadn't completely considered before jetting off to Swaziland was that the impact of my participation would go both ways. I think the most valuable thing I gained from the experience wasn't the impact I made on the project, but the impressions that my coworkers and the overall experience left on me. I feel incredibly humbled by the talented people I had the opportunity to work with, and I'm extremely grateful to the people who made this experience possible.

Meet Patrick and Temhlanga. Patrick is the senior lab technician at BIPAI Swaziland, and Temhlanga was the new technician that I was able to train in PBMC isolation. This photo was taken on my last day in front of the clinic where we worked.