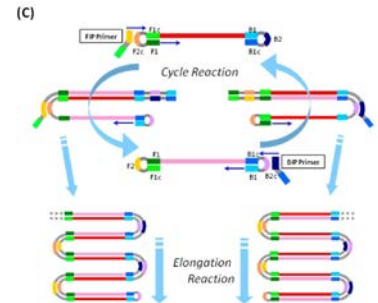


July 5 through July 12, 2016 - Newsletter 7

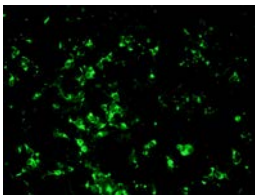
OH, NO! ONLY THREE WEEKS LEFT TO COMPLETE THE RESEARCH PROJECTS

Research Progress

When the students left on May 26, 8 weeks abroad seemed like a long time. However, with only 3 weeks to go, many of the students are now trying to finish their lab work and start analyzing their results. For example, Ernest says that *"Time is winding down and I am close to finishing PCR and hybridization on the remaining mycobacteria samples. Currently, I am in the process of analyzing our results accounting for the different mycobacteria species. The goal for this coming week is to complete the remaining 30+ samples before coming back to Hawaii. Super stoked to see what happens next!"* Tiffany reports, that *"With less than 3 weeks left at our foreign countries to finish up our research, we have all been very busy in the lab. This week I used LAMP assay (see figure on the right) with a protocol that I went over with Dr. Som to perfect. It was a success! I tested samples that I had already screened using PCR to compare and it has been working out very well."* *"However, next week is the Buddhist holiday in Thailand from July 15-21, so time is very valuable right now!"*



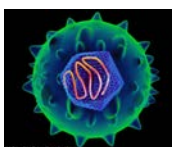
The LAMP Assay



"This week in lab I finished IFA, and I am now working on my final report." *"The cells are pretty mesmerizing to look at under the microscope (photo on the left)!"* wrote Meno. At last, John is beginning to master his data set. *"I finally was able to start getting the programs to work properly and spit out some results. At this point I am trying to refine my input in order to get a more accurate representation of overrepresented pathways in my samples."* Last week, Gabby *"... continued*

genotyping DNA samples using SNP assay and was able to finish all the laboratory work for my project. Over the past few weeks, I performed 7 SNP assays on 114 samples of DNA. This meant I performed RT-PCR on an astounding 798 wells, and that does not include the samples needed to be repeated due to error. I have done it so many times, I could probably do it in my sleep (haha). This upcoming week I am planning on analyzing all the data collected and associate the outcome of melioidosis patients with their genotype." Jeff's report shows us that he finally overcame his statistical problems (Smile!).

"This week has been pure data crunching and running statistics. Dr. Nittaya said that she was planning to present the analyses that I had run at the 2016 AIDS conference, as she is one of the plenary speakers this year! With all this pressure, I wanted to finish my analyses quick so that she and pi Mai (the biostatistician) can look over it and see if any of the data were significant enough to talk about. I managed to finalize the descriptive table and the analyses by early Friday and realized I was finished with my main research goal for the summer". Next week he will begin trying to expand his data template with the hope it can be used by different Thai clinics, *"something that could be implemented into national PrEP policy for Thailand! This experience has definitely given me more insight into translational research and why it is so important that as researchers we need to be involved both inside and outside of our labs. To actually address the disparities and diseases we are working on, we should do*



as Dr. Nerurkar says, "collaborate". Collaborate with other sectors of society so that we can see our research evolve outside of the laboratory and into the real world." This week, Michael (in Cameroon), spent his time doing extraction, amplification, migration, and selection of products for HCV samples. He met with his PI, Dr. Njouom, and learned that *"Since I am being certified for extraction, amplification and phylogenetic analysis, I will be able to analyze*

all of the samples that came in through Centre Pasteur from the time that I arrived here to the time that I am leaving." Wow, this could be a fantastic data set! Finally, Tiana says concerning her project on *H. pylori* and HIV that *"I am waiting to do more bench work in the lab. As for now, I am just reading materials and asking questions about the project."* I know we are all excited to hear about their results on Friday, August 12th at the E Ho'oulu Haumana presentation.

Visiting a Craft Fair results in a Community Service Project

Soon after arriving in Cameroon, the students decided to visit the Gorilla & Chimp Conservation Center supported by Ape Action Africa. On the way to the center, a policeman stopped the vehicle and asked for IDs. When the students showed him their driver's licenses, he demanded passports and mentioned paying a penalty for improper documents. So, instead of paying the self-serving policeman, the group for went seeing the chimps and went to a crafts fair where they learned about a group women who are trying to create a business selling soap. So, the group decided to try to help the women, with Michael converting his cultural project into a service project. Here is what he wrote:

"Coftrakol is a company run by women that specializes in producing Shea nut products. Based in the village of Bangangte, that is about 3 hours away from the capital, these women are utilizing natural resources to create Shea butter, Shea body cream and soaps of various scents. The idea originally stemmed from when the Peace Corp recognized the opportunity to create these products from the abundance of Shea trees. It was then adapted and executed through a Japanese humanitarian organization called JICA. Florence, a local woman of Bangangte, recruited other women to join and help create this business. After the initial planning in January the business finally began in May. During this time, Cameroon was suddenly struck with the avian flu, which killed thousands of chickens. The reaction of the Cameroon government was to kill and burn all the chicken in infected areas. Unfortunately, Bangangte's main source of income is poultry farming. The main objective of the business was to help motivate the women of this village to become independent and find other sources of income."

I was very glad to be able to visit these women and see how these products are made. The amount of care and hard work that goes into making a bar of soap is tremendous. It takes over a month from start to finish to create a single bar of soap. I had the opportunity to participate in one of the steps in making the soap. I was able to mix the ground Shea nuts with water by hand to precipitate the Shea nut oil. This process takes about 1 hour to mix by hand!!! (I was tired after 5 minutes) Since the nearby well was broken, we had to trek down a hill to a river that was about 10 minutes away and then all the way back up. The amount of work to retrieve a small pail of water is amazing. To support these women and all of their hard work I purchased 24 bars of soap and a half-liter of pure Shea butter." "I plan to make a promotional video showing the process of making the soap. If the video is good enough, maybe the women can use it on their website for more publicity."



Collecting water



Meeting women in Bangangte



Florence and Michael



Soap in the store



The final product

Cool activities outside the lab. Photos of MHIRT students in their spare time:



Tiana shopping in India



Jeff, Tiffany & Meno taking a Muay Thai class the famous Master Toddy's gym



"I was terrified the baboon would leap over the fence and chew my head off." Ernest at the zoo in Yaoundé



Tiffany making friends with python in Bangkok