



A weekly newsletter for students, family, faculty, mentors, and friends
June 17 through June 24, 2015
Newsletter 4

LEARNING THAT RESEARCH IS OFTEN “2 STEPS FORWARD AND 1 STEP BACK” AND HAVING VERY SPECIAL CULTURAL EXPERIENCES

MHIRT students continue to work hard in the laboratory. Here is a brief report of what they did:

Research Updates

Robinson: “This week did not go as smoothly as I had hoped. After conducting protein purification over the course of a week or so, we ended up with no protein after running our samples through a column. It was rather disappointing to put quite a bit of time into a protocol only to find out it didn’t yield anything. However, I’ve come to realize that in science things go wrong all the time and you just have to learn to deal with it and move on.” Rob, don’t worry, last week Samantha was having PCR problems, but ...

Samantha: This week she wrote, “Dr. Som and I finally solved the BK primer mystery. We were originally using the outer primers for the PCR but these were giving us issues such as nonspecific binding.” “We ended up switching to the inner primers..... and got a much cleaner looking gel.” “We also may have found a positive control for BKV. We are sending for sequencing tomorrow.” Samantha also presented a paper on the prevalence of polyomavirus BK at Journal Club. We will highlight this project and her lab-mates in next week’s Newsletter. So, stay tuned!



Maya: “I am happy to report that this week I completed my first flow cytometry procedure (almost) by myself.” “..., I wrote up my own flow procedure that was approved by Dr. Kelley before samples were stained. I feel more confident in my role in Dr. Kelley's project now that I can finally be of real use to him. Spending time in the lab has taught me to be detailed, thorough, and most importantly--mindful.”



Christian: Like Maya, Chris is learning a new technique in flow cytometry. He said “This week, I got to start doing the intracellular cytokine staining (ICS) panel. I was able to stain dendritic cells from non-human primates without Simian Immunodeficiency Virus (SIV), as these samples aren’t as precious as others. While doing the ICS panel, I had to also familiarize myself with the cellular phenotyping panel, which basically allowed me to characterize the cell populations based on surface marker expression.” Clearly, Chris and Maya are conducting similar techniques on different viruses, namely, HIV and Dengue.

Raphael: “Last week, at work, I read up on the physics of MRI/MRS. Dr. Suwit would like for me to understand the physics first before learning how to do analysis. We did one patient exam on Friday and this week I will learn how to analyze the images and spectroscopy of that patient. It's going good.”

Chaewon: “I attended the HIV and HPV Research in Asia and the Pacific meeting at the Renaissance Bangkok hotel. I was able to hear presentations about anal squamous intraepithelial lesions and HPV research.” The next day, she was “able to observe the clinicians from Jakarta, Bali, Malaysia, and a clinician from the Thai Red Cross perform HRA (high resolution anoscopy) and IRC (infrared coagulation) on seven different patients. It was fascinating!” So both Raphael and Chaewon had clinical experiences this week.

Taneesha: “This past week, Dr. Pornsawan showed me how to dissect mosquitos using a blade and forceps tools, group them in different “pools” by separating them by species and traps, grind the dissected mosquitos, and go through the RNA extraction process. Tomorrow, Dr. Pornsawan and I will start the preparation for the PCR process, and hopefully on Wednesday continue by running the electrophoresis gels so that I am able to see which samples are positive for Dengue or Chikungunya virus. I am very excited to see the results.”



Sairel: “We are still working on extracting the lipid A ...” I also once again passaged the monocyte cell line and because I had to do it by myself, I was a bit nervous. Most exciting of all, I finally got to meet Dr. Narisara, my mentor, on Tuesday. She was equally as excited to meet the students who are training in her lab.”

Mc Millan: Continued to culture “his” fungi and learn how it develops from one stage to another. “And tomorrow I will infect my Macrophages with my conidia to start my THP-1 culture studies of *P. marneffei*. I will do 12 hour collection so I have to stay in the lab from 7:30 am to 8:30 pm on Sunday. Yes, I work hard here.”

Kellyan: “Photos from meat market (Dr. Gift, her grad student Chung, and I [and Taneesha] buying raw pork products/organs for Hepatitis E testing).” “Hmmm! so many to choose from and to test!”



Sai: “At the Thai Red Cross, I began working and testing some techniques for transcribing. Dr. Charlene has interviews that need to be transcribed, so I was looking for different ways to make transcribing [audio tapes] easier. Much of the software available was expensive and not always accurate, but I was able to use YouTube’s closed captioning service and pull the captioning to create transcriptions. This is pretty much what dictating software does, but this is free. This saves a lot of time during transcribing because we do not need to type everything out. So hopefully we can get much of the transcriptions finished before I leave.” Now you know the type of research our communications/psychology major is doing. We will also highlight his project next week.

Two Special Cultural Experiences

1). In addition to visiting temples and sampling new foods, 7 of the MHIRT students in Thailand have traveled north to Chiang Mai to see the elephants. Here is Samantha’s report: “I had one of the best experiences of my life at the Elephant Nature Park. My initial plan for any elephant excursion was to ride the elephants, but this experience changed my point of view on the tourism of these amazing creatures. The elephants at Elephant Nature Park were all rescued from different places (illegal logging, riding, etc.). A majority of them are mentally unstable or physically disabled from the abuse that they endured throughout the years. On



opening experience.” Students in the photos include: Mc Millan, Raphael, Sairel, Taneesha, Kelleyan, Chaewon, and Samantha.

2) In Germany, after visiting a number of beautiful fairytale castles and lovely gardens, Robinson took in a very different cultural experience: “This week, I learned that basketball is somewhat popular here in Germany. I watched Game 4 of BBL Finals with FC Bayern Basketball against Bamberg. It was an electrifying game. It was a packed house and everyone was on their feet practically the whole game cheering on FC Bayern. FC Bayern won the game with a commanding victory 83-73 leading the game since the end of the 1st quarter. Just so we know this was my first ever professional basketball game I attended... and it was in Munich at the Audi Dome.”

