



Monday July 10 through Sunday July 16, 2017
Newsletter #8

ONLY ONE MORE WEEK ABROAD: TRYING TO MAKE THE MOST OF THE TIME LEFT

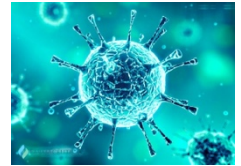
This week, MHIRT students realized their summer research experience was about to come to an end. So, they were busy with doing what they could to complete their research, analyze their results, and started preparing short Powerpoint presentations about their projects. MHIRT students will give a short talk to their mentors and colleagues summarizing the project before they leave. During the weekend, they were busy with last minute sight-seeing, working on their cultural projects, and of course shopping. This next-to-last Newsletter, highlights the final 4 research projects, all of which are trying to “figure out how it works.”



Just like in Hawai'i, people who swim in the ocean in Thailand can encounter box jellyfish, some of which can give life-threatening stings by injecting venom. Several species of jellyfish are found only in Thailand and little is known about them. So this summer, **Brithney** is working at the Mahidol University in Bangkok with Dr. Nuankanya Sathira trying to speciate the jellyfish and learn about their venom. Her University of Hawaii mentor, Dr. Angel Yanagihara, joined the group a week ago to help collect and identify the jellyfish (photo on the left). Brithney wrote, “I flew to Ko Samui with Dr. Yanagihara, Dr. Nuankanya, Jeff (a professional photographer and diver) and Pi-Tung (Dr. Yanagihara’s research assistant) (photo on the right). It is absolutely beautiful in Ko Samui and I love it dearly because it reminds me of two things that are close to my heart. It reminds me of the Philippines and Oahu.” So Brithney *carefully* helped collect jellyfish and then in the laboratory used PCR to speciate them. Hopefully, someday soon the group will be able to find the best way to manage Thai jellyfish stings.

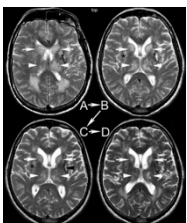
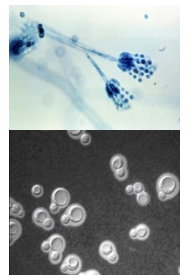


During the monsoon season in India, mosquitoes spread a virus called Chikungunya virus that causes a severe flu-like disease with persisting joint pain. There is no vaccine. Thus, **Michael** joined the research group of Dr. Ravi Tandon, in New Delhi, India to study the immune response that leads to killing virus infected cells. They recently received immune cells from individuals who recovered from Chikugunya virus infection to see if the CD8+ T cells



responded to potential vaccine constructs. Thus, they are trying to figure out how the body defends itself from the virus with the ultimate goal of using the information to develop a vaccine.

In Chiang Mai, **Mark** joined Dr. Sirida Youngchim’s research group to study two fungal pathogens that cause major problems in immunocompromised individuals, for example, HIV patients. The group is trying to produce a rapid diagnostic test for diagnosing the infection. However, as a side project, they challenged Mark to determine if one of the two organisms, *Penicillium marneffe* (top) or *Cryptococcus neoformans* (bottom), is more virulent than the other. So, Mark has been trying to determine the response of THP-1 (human monocyte cell line) to the two fungi is different and if one species kills normal human cells more rapidly than the other. Knowing how the fungi induce pathology will help find a way to neutralize the damage.



Ever wonder how the brain works? This summer, **Lean**, who is a Geology and Geophysics Major, learned to use a really difficult computer software program to characterize the anatomy, size and volume of brains. She worked in the laboratory of Dr. Suwit Saekho in Chiang Mai, who is an expert of Magnetic Resonance Imaging (MRI). Lean reports “This whole month, Dr. Suwit and his graduate students have prepared me well in using the brain imaging software.” The group is comparing brain differences in people who suffer from drug addiction and those who do not. Understanding how mind-altering drugs influence the brain, is a first step in finding a cure.

During the weekend, this is what they did:

Dwayne got a haircut



"My haircut only costs 150 baht... it was an awesome experience. Language barrier was a problem but I just showed them a picture of a haircut that I want and they just started cutting... and here's a proof."

Brianna played the violin at church



"I played the violin at the Airai Day Seventh Adventist Church. Dr. Kitalong has been letting me borrow his father's violin. The church service was in Palauan, no English translator. I felt very privileged to play for the service. In Hawaii, I perform at many churches. This was my first time performing in another country."

Cindy learns to weave Thai silk



"I completed my silk project with a visit to the Loom at the Gateway Ekamai mall. I enrolled in a 2-hour Basic Weaving class and was given a private lesson by an instructor on how to weave a simple silk pattern at the loom."

Michael visited Bara Imambara



"We had a guide lead us through the bhul-bhulaiya, a labyrinth that leads you to where I was standing to take the photo of the entire interior where Asaf ud-Daula's grave is kept."

Jovikka visited a tailor



"We visited a local tailor to get traditional dresses to wear for our final presentation this upcoming week. This was exciting because my cultural project is about the different clothing styles in Cameroon."

Brad was invited to dinner



"We visited the home of Livo, Jovikka's advisor for a home-cooked meal. Livo's older brother is a musician and he was kind enough to sing for us in one of the local languages, and explain some of Cameroon's rich cultural history to us."

Mark made new friends



"On Saturday I traveled to Mon-Jam to simply get away from the city and just get some fresh mountain air. While resting I happened to come across two girls from the Hmong tribe, although my Thai is quite mai dee (bad), I found that there are universal ways of communicating through hand gestures and smiles, luckily they were willing to take a picture with me."

Ashley went on an awesome tour



"Today, I felt very blessed by the hospitality of Dr. Mayuramas 'Jan', and her students, Knight and Nuk. I spent an entire day with them as they took me around the ancient city of Ayutthaya." With Nuk and Dr. Jan's instruction, I learned how to properly prepare a lotus bulb for offering by folding the petals to create the appearance of a lotus flower. I was also able to offer incense, a candle, gold squares to statues of Buddhist deities, and chant a Buddhist verse in Thai with Dr. Jan which represented protection and renewal in one's faith even in another life."

Lean planted trees



"I took part in another tree planting event, where we planted 5,000 saplings. This time we had students from kindergarten to high school join us. The Thai kids were so cute and surprisingly so well-behaved! It's such an amazing feeling contributing in teaching the young generation to care for our planet and also seeing these kids smile and laugh while planting trees."