

Week 1 (June 13-20) Report

June 12-20, 2017. Prepared by Ms. Eleanor Dietz

This week begins the International Research Experience for Students (IRES): US-China Collaboration on Landslide Research and Student Training program. This program is hosted by the University of Houston (UH) in U.S. and the China University of Geosciences (Wuhan) in China. This program is funded by a National Science Foundation (NSF) Award (OIA:1460034) for a three year period (September 1, 2015 — August 31, 2018). The IRES summer 2017 program is supporting 8 U.S. students (two graduates and six undergraduates) to conduct advanced landslide research in the Three Gorges area in China for the total of eight weeks.

Day 1

Out of state students have safely arrived in Houston from their respective home towns where they were met with many layers of humidity and heat that our city brings. One UH student was kind enough to lend a room in their apartment for one of the out of state students while the other two found haven with friends or family. Other students are returning from vacation and diving straight into busy mode for the next 8 weeks.



IRES 2017 Program Participants (from left to right): Colton Morrow, Vasilios Tsibanos, Lynn Nguyen, Eleanor Dietz, Erica Lucas, Julie Monluc, David Wang, Hannah Bonner, Keyin Scott, Dr. Guoquan Wang.

The first official day (June 14th) was filled with necessary meetings and itinerary discussions with all group members including Dr. Wang and PhD student, Lin Xiong. Starting the day at 9 AM, all students gathered around the circle table residing in Dr. Wang's office where introductions were made and where the five UH students welcomed the three nonUH students. The atmosphere is friendly and many are giddy with excitement for the upcoming trip.

The first meeting was in the Study Abroad office with the Learning Abroad Advisor, Maggie Brock. Important details were discussed in the conference room including things such as:

1. Items to bring: Photo copy of your passport, ISIC card
2. Health: Bring enough medicine for the duration of the trip
3. Technology: Contact phone provider for international plan, call banks to inform of international travel
4. Culture shock and reverse culture shock
5. How to avoid pickpocketing

The very informative meeting wrapped up and students with Dr. Wang headed to take a tour of the downstairs lab in the Science and Research Building 1. A quick tour of the equipment and research done was given by one graduate student. The next item on the agenda was another conference meeting held by Dr. Wang himself. Dr. Wang explained two important points to us, those being:

1. *Science* – One can learn many geologic concepts about China without ever stepping foot in the country. For example, all the information on the Huantupo landslide can be found online through several searches – the reason to go to China is to learn more than what papers can give you. This includes everything within the realm of science as well as understanding more about Chinese culture and customs.
2. *Purpose* – A great sum of money was spent for us eight students to travel abroad and roam around comfortably. The group must not be distracted and maintain the purpose we were sent there for.

After this discussion, Dr. Wang described the itinerary of the first week while we are in Beijing and a general outline of the next 8 weeks.

The day ended with a group lunch to a Chinese cuisine lunch right on campus, Cafe 101. The group eagerly waited for the food and one comment made by a student explaining how much more excited they were after the days' activities. A successful first day to say the least!

Day 2

Students met in the office again for a full day of meetings and pre-planning travel details. The first meeting given by one UH Communications professor, Dr. Youmei Liu, who is a native from China and attended Nanjing University. She gave an informative talk about cultural awareness, the four main Chinese festivals and several holidays, and the various types of food that we will run into during our travel.

Afterwards, Jennifer Welch and Jacob Kratavil gave a talk about their experiences last year when they attended the program.



Dr. Youmei Liu teaches students about Chinese cultures and customs.

Day 3 & 4

Two groups of students alternated between field trips at UHCC and Freeport beach – both locations with different subjects such as UAV flight plus processing and LiDAR (TLS survey).

For the Freeport portion, students traveled to Quintana Beach to conduct a TLS survey with two TA's, Lin Xiong and Sarah Zhou. Students became more knowledgeable in pairing the use of LiDAR and high accuracy GPS in natural hazards studies and mitigation such as beach dune morphology as well as coastal erosion. One kilometer of the beach was completed with scans leaving one more kilometer for the next day's students. The TA's introduced the LiDAR explaining scanners, 3D point clouds, reflectance images, and the parts of field equipment. It was a very warm and sunny day so there was no uncertainty about environmental conditions affecting the scans.



During the UHCC portion, students were transported to La Marque, Texas for some UAV practice and to have an introduction to the Agisoft software used to process the images afterwards. Upon arriving, students prepared the drone for flight by putting it together and going through the pre-flight checklist. One of the first things was to create a flight path for the aircraft by inserting a 3D map area and constructing a path. After toggling with the altitude, speed, and camera shutter settings, the drone was in flight. After learning the basic functions of the UAV and app needed to use it, students practiced flying the aircraft and landing it. Finally, students went back inside or to a local coffee shop to use Agisoft. A 3D model finished product was created from the dense cloud which originally came from the photos taken by the UAV.

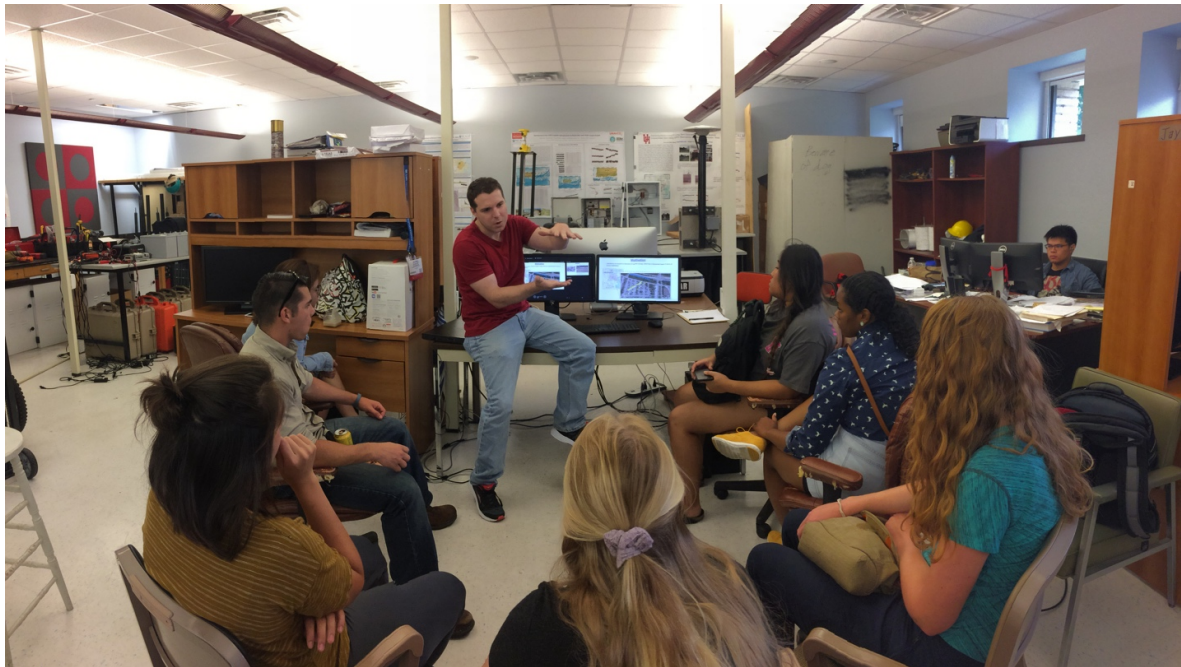


Students (Vasilios Tsibanos, Hannah Bonner, Lynn Nguyen) practicing UAV flight safety.

Day 5 & 6

On day 5, a free day was given for some much needed rest and packing. Some students needed to exchange American money into Chinese RMB, while others needed to begin packing their bags.

On the last day, students were led by PhD student, Jak Kearns for a brief introduction to the GPS station at the NASA site. After a quick PowerPoint in the lab, the next step was to go to NASA to physically view and download data from the GPS station. This concluded the pre-departure program to prepare students for the upcoming trip. Week 2 begins in Beijing China!



PhD Student, Jak Kearns, giving vital information about the Houston Subsidence and the collaborative use of HoustonNet.



