

# Sumriti Ranjan Patra(舒堤杰)

## Experience in Taiwan

Studying abroad is a dream of every ambitious student, who wants to study hard and make an impact on the society they live in. However, not every student gets the opportunity to study abroad. The main obstacle comes in their way is the finance. We were lucky enough to get the opportunity to have the scholarship under TEEP program and make my dream come true to study abroad. TEEP provided us the opportunity to study in Taiwan. That is how I got admission in Nanhua University.

It was very first time for us to go abroad. We were not having any idea about booking flight ticket, passport, visa and lots of other question but Professor Hong- Yao Ming and staff of International affair from Nanhua University help us every time throughout the process. We, were six students from India, arrived Taiwan in September 2018. Everything seems to be different from our country. The culture, food, language, living style was totally different from India. It was so much challenging for us to adopt in such environment especially food. However, we were fortunate enough that we had such caring seniors. They taught everything here. They made easier and good here. And now we made ourselves accustomed with the environment and culture here.

### Classmates

In our class, we are total seven students. In which six are from India, one from Bangladesh. All the Indian students have completed bachelor in civil engineering and the student from Bangladesh, he has done bachelor in Waste Management Engineering. All of my classmates are so nice. They are always ready to help each other. Sometimes we make fun of each other, tease someone and this way we have enjoyed each and every moment when we were together. We also went for trip together and have party and lots of fun. I have lots of memorable moments with our friend which can never be forgotten.

### Course in first semester

We had total five subject in first semester. The name of the subject are **Soil and Water Conservation, Hydrology, Sustainable Agriculture Technology, Sustainable Agriculture Management** and **Space Information Practice**. In addition, we attended **Thesis Writing** class and **Basic Chinese** class.

In **Soil and Water Conservation**, we studied about basic properties of soil and made report on sieve analysis, compaction test, permeability test on different types of soil type.

In **Hydrology**, we learnt about the Digital Elevation Model (DEM), Depression. Also learnt how to determine cell size, maximum elevation of a plot using c++ and some other basics of c++.

In **Sustainable Agriculture Technology**, we learnt about different policies of agriculture in different countries. Learnt about the old and new technologies of agricultures, how the track of the agricultural production has been kept in different countries. We also learnt how to make agriculture sustainable for the environment.

In **Sustainable Agriculture Management**, we learnt about the goals of sustainable development ie. SDG. Organic Farming techniques was taught in this course.

In **Space Information Practice** we learnt about Geoinformatics (GIS), Spatial Data Editing using QGIS software, advantages of spatial methodologies. We also learnt how to operate UAV.

### **3<sup>rd</sup> Conference on SDGT 2019 at Fo Guan Shan Monestary**

The 3<sup>rd</sup> international conference on sustainable development & green technology was held from 2-3 November 2019 at Fo Guan Shan Monastery in the beautiful city of Kaoshiung. The conference had attracted many great researchers from all around the world and they presented their research which contributes towards the sustainability of our beautiful planet for future generation. This conference has attracted many keynote speakers from all around the world. Some of them were from **Philippines, USA, Romania, Hong Kong, Germany, Japan, Vietnam** and also from **Taiwan**. Name of some of the keynote speakers are **Prof. Yao-Ming Hong & Prof. Shih-Shiung Chen From Nanhua University, Taiwan and Prof Jungsheng Lieh from Wright State University, USA**. All the researchers who came to present their research in this conference have great contribution towards sustainability and its development and trying to improve current methods of environmental management, sustainable agriculture and many more.

Like **Prof. Jungsen Lieh**, he did a research on emission carbon dioxide (CO<sub>2</sub>) by the engines used in the cars. The objective of this study was to make people aware of the consequences from this and how much we are harming our own environment & planet and how we are responsible for the increased issue of global warming. He provided some data which showed that one car in USA produces 5.2 tons/Year of CO<sub>2</sub> while there are 200 million cars in USA. So the total emission of CO<sub>2</sub> from just cars is  $1.04 \times 10^9$  tons/Year. He also showed the data that there are around 1000 million cars in the world & they produce  $5.2 \times 10^9$  tons/Year of CO<sub>2</sub>. So as you can see this is a serious issue. **Prof Chen Shih-Shiung** he told us about his organic farm "City Bear Farm" in Tianzhong which is in Changhua County. He is a organic farmer whose products are 100% organic he grows vegetable, Fruits, Coffee, Eggs, Honey and he has chicken which are from all around the world from different parts of Europe & Asia. He uses black soldier fly (*Hermetia illucens* L.) to reduce the generation of solid waste and so that he can decompose solid wastes in a sustainable manner without harming the environment. He also has Honeybees which are an important part of our ecosystem as without them their will be no transfer of pollens which could have harmful effects on our environment.



Fig 1 Prof Chen Shih Shiung Talking about Black Soldier Fly

**Prof Lin Wen-Tzu** from Nanhua university has 20 years' experience in the field Remote Sensing & GIS. His research was based on reducing landslide of soil using vegetation buffer. He developed a map of his study area using Remote sensing and calculated the **NDVI value (Normalised Difference Vegetation Index)** of different areas to find where the vegetation is dense. NDVI quantifies vegetation by measuring the difference between near infrared (which vegetation strongly reflects) and red light (which vegetation absorbs). NDVI ranges from -1 to +1. -1 means its highly likely that its water & +1 there's high possibility that its dense green leaves. But if its zero then its an urban area. As you can see the concept of NDVI is based on the refraction from target of study of electromagnetic spectrum from two types of wavelength. He highlighted the area of dense, medium & low vegetation in the map he developed in GIS. So he applied Remote Sensing & GIS in the disaster reduction which is a great combination of applications.





Fig 2 Prof Lin Wen Tzu Talking about GIS based automated extractions of Landslide Hazards & Receiving his Participation Certificate

**Krishan Pareek** a Masters student in Green Technology for sustainability at Nanhua University is trying to develop a strong equation to predict the strength properties of concrete by considering the factors which other researches haven't focused on.

**Amit Kumar Shah** also a Masters Student in Green Technology for sustainability at Nanhua University has Done his Research on No Erosion Filter Test (NEFT) of soil. This Test is done to construct a suitable filter for the existing soil so that whenever water enters the soil and the water flows through the soil the water takes considerable amount of soil particles with it the filter will prevent the soil particles to move out and only will allow the water to pass through. So due to this there will be no Soil erosion. In this the sieve analysis done on the soil plays an important role because according to its particle size distribution he designed the filter.

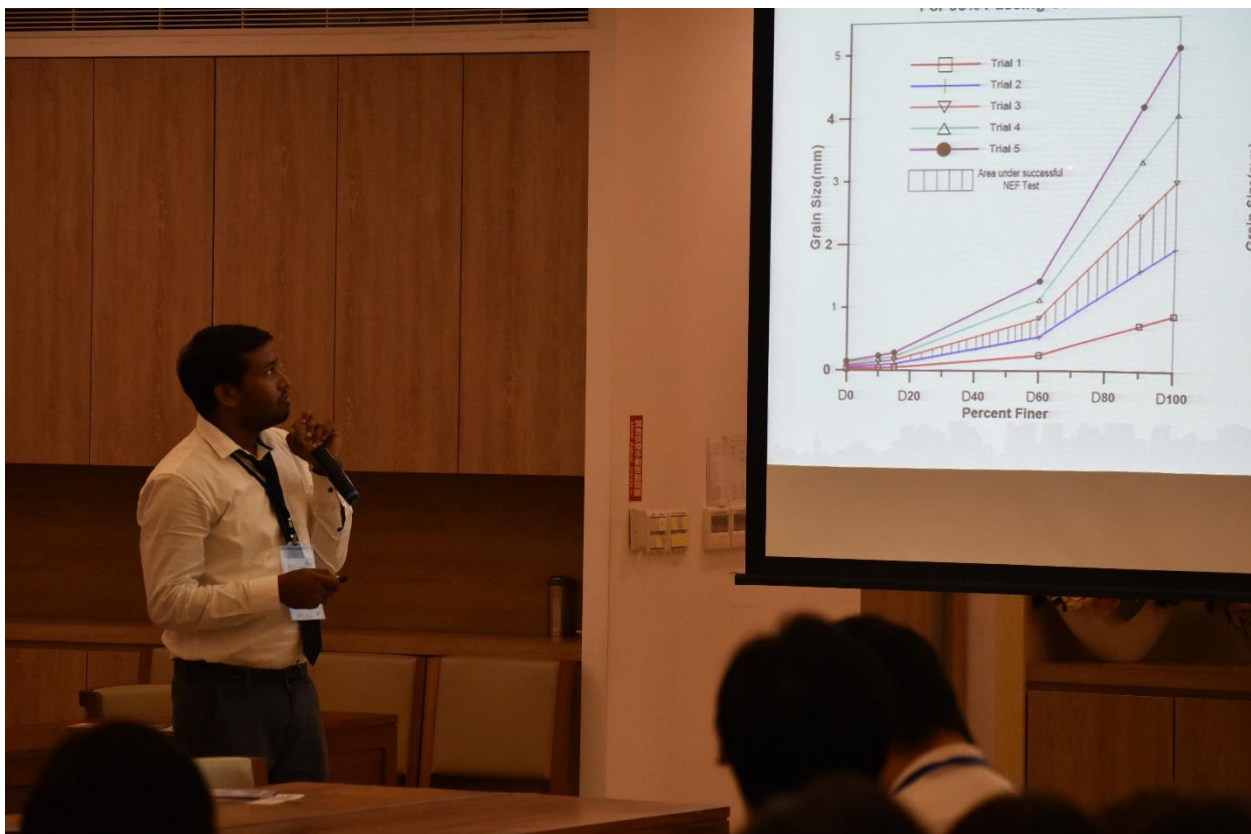


Fig 3 Amit Kumar shah talking about his research on No Erosion Filter test (NEFT) on soil

**Dr Jon Bryan Burley** from Michigan State University, has done his research on how to restore the natural land properties i.e. soil properties which were being previously disturbed by the humans. He has done research at 35 different sites all around the United States and he only gave a brief Presentation on his research at 4 different sites.



Fig 4 Jon Bryan Burley Talking about his research on restoration of natural properties of soil



Fig 5 All participants along with their Participation certificates

Overall it was a great experience and got to know many things and many research going on throughout the world. Its Good to see people all around the world working towards a common goal i.e. towards the sustainability of this planet and protect it for our future generation so that they wont blame us for all the harmful things we are doing to our beautiful planet in this era. SDGT is a great initiative towards promoting sustainability and developing green technologies to protect our planet and its diversity.

### **Tour in Taiwan**

Even in between the busy class schedule and studies Professor Hong managed to arrange tour to Fo Guang Shan. We explored the Buddhist Museum there. We got to learnt about the Buddhist Culture here in Taiwan. We explored the whole place there.





Prof. Chen Shih Shiung also gave us the opportunity to visit his organic farm in Tianzhong, Taiwan. The name of his farm is City bear farm. There we got to learn many things on how to harvest honeybee and also other vegetables and plants. He also showed us how he is reusing the solid waste for black soldier fly and why his farm is sustainable & organic.







He also Gave us the opportunity to visit Cat village it was a great experience to see a community in Taiwan and how they work & maintain the community. Also he took us on tour to Pineapple Mountain where we saw large field of pineapple agriculture. It was a Great experience.









The International department of the university arrange a visit to a high school, to learn about the high school in Taiwan. We went there two days and met with the students and teachers there. They taught us about the making of Chinese tea and some of Chinese games.

## **Conclusion**

The six month from September to February had a wonderful day. We got to learn different new things related to different countries culture, language. We make different friends from different places. Learnt culture of Taiwan and get used to here. Along with fun we also studied about sustainable development and also learned about research paper and conference.

I would like to express my special thanks of gratitude to Professor Hong- Yao Ming for his constant support and making all these things possible. I am also thankful to Ministry of Education, Taiwan to launch such a wonderful program titled "Taiwan Experience Education Program (TEEP)" to welcome students to join different universities and colleges in Taiwan for short term professional internship. Which help many students like us to make their dream come true. At last I would like to suggest to make such program more and more so that more and more student can get benefit of this.