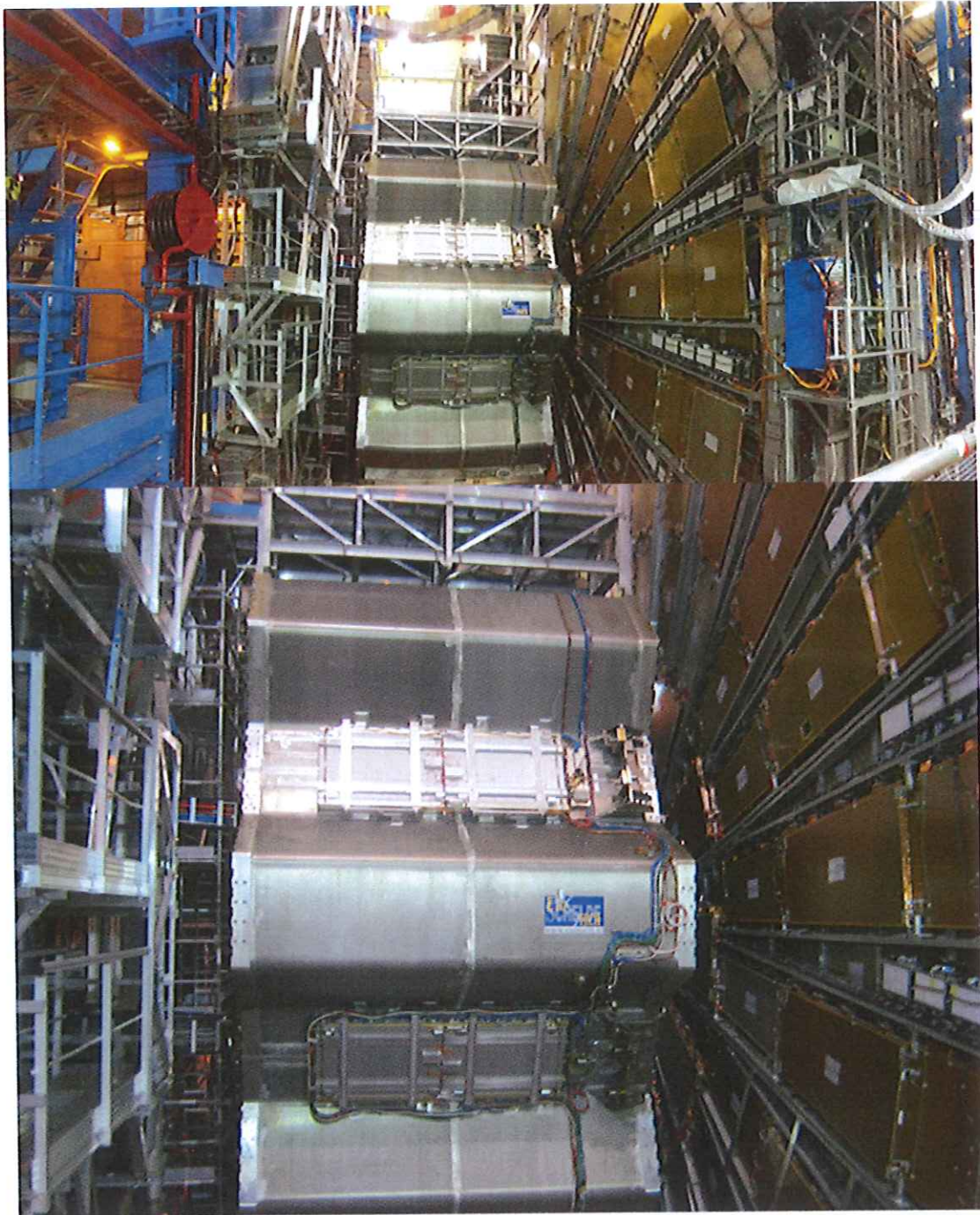




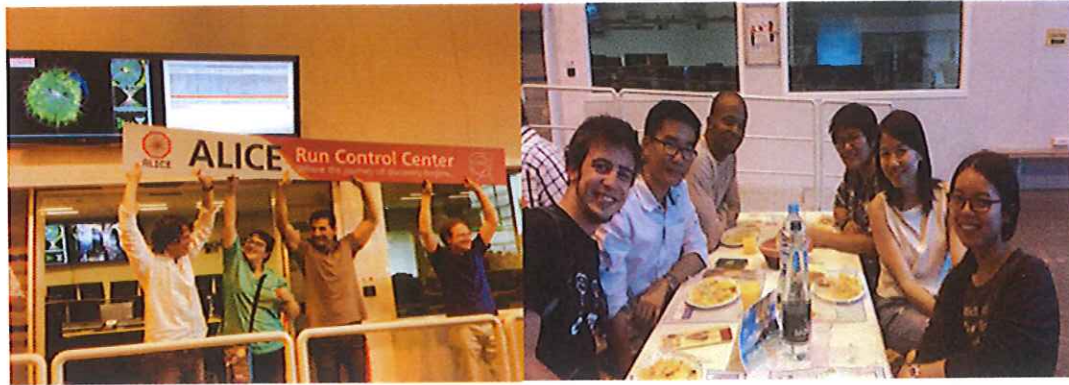
Tuesday 1st July 2014

I woke up so early because I had an opportunity to visit ATLAS!! I rode my new bike from the hostel CERN at 7.20 A.M. It was a good exercise. 😊 ATLAS site or LHC point 1 is located opposite to CERN site. Milk and I joined visiting group with other people. We walked through the Globe to ATLAS office. A guide was very nice. I saw such a big detector. It is the biggest detector in CERN. I hadn't seen the center of the detector. It was just the end of the detector but it's still big.



The first lecture started today. It was an introduction to particle world. I was so sleepy because I went to bed late last night. I thought that I need some coffee but I tried to avoid drinking it. In the afternoon, I did my work and wrote a report. There was a ALICE party in the evening at the ALICE site or LHC point 2. Thai student went there by foot. It's about 30 minutes because we were lost! LOL. ALICE summer party was wonderful. There were not too many people. Not only ALICE people but the ALICE spokesman is very nice. He talked to everybody in the party. ALICE has less staff than CMS and ATLAS but I think it is a nice place to work in. In the party, I met Harrol – an American summer student. He is friendly. We had dinner together. Harrol

introduced us to his friends. There were two American ladies and one French guy. The French guy is not a student but a cameraman. He is talkative and funny. We talked a lot and added them into our Facebook friends before we walked back to the hostel at 10 P.M. So, what's next - went to bed? - Nope! I did my work till 2 A.M. next day.



Wednesday 2nd July 2014

The lectures were interesting. There were intro to particle world, intro to accelerators and practical statistics for physics. I wanted to concentrate on the lectures but I had to do my work. So I had to do my work in the breaking time. In the afternoon, I worked in the library and went to see P'Phat at 4 P.M. I finished discussing with him almost 6 P.M. So I had time to join the summer student welcome drink activity just only 15 minutes. There, I met Cedrick. He is from California. He is a physics student at the Caltech. I talked with him about Physics and Quantum Mechanics. It was a great time. I didn't have many moments like this when I was in Thailand. There were many young physicists here. 😊 Then, I had to go to buy some food before the Carrefour is closed. I was surprised when I came back to my room. There was a new fridge. I could store food for few days.



Thursday 3rd July 2014

Last night I went to bed around 3 A.M. I was so sleepy in the morning. I slept in the third lecture, which I was very interested in. It was an introduction to statistic for physics. In the afternoon, I worked in the library then came back to the hostel. After dinner, I reviewed all of my work that I had done today. I felt like I may be sick.

Friday 4th July 2014

Time went so fast. The fifth week was passing by. I felt sleepy throughout all of the lecture session today. I didn't get anything in those lectures. I planned to revise them this weekend. After lectures, I, Milk and Vovo, my friend from Ukraine had lunch together. I took aspirin and took a nap in the library. Then, I went to see P'Phat. We found that I made some mistakes in my code. I had to fix and run them again. It would take few days. I hate myself for ineffective thinking! I usually misunderstand something those are easy. Rain was coming. I had to leave CERN and continued doing tasks. Thai students had an idea to write reviews on pantip.com to promote Thai-CERN collaboration program. At night, I sent my jobs to the CERN batch. (Now, I was doing an analysis process. I had to run analysis codes in order to cut unwanted data.) Then, I wrote a status on my Facebook to promote Thai-CERN collaboration program and wrote a diary.

Saturday 5th July 2014

Even though it's Saturday, I had to get up early. Neuchatel was my destination. I plan to walk up to the Creux du Van. It was a 13.6 km-trip. I walked to Creux du Van with P'Bird and Milk. It was very beautiful even though it was rain. We were so tired climbing to the mountains but it's worth! I saw wild animals when I was at the top of the mountain. Cruex du Van has a beautiful geological structure. I studied the geology of Cruex du Van from a sign in the village near Noirague. The Pathway to the Cruex du Van is so steep and it was rain at that time. We were tried and wet but we insisted to go on. We helped and encouraged each other until we reached the top and went down the hills. It's one of my good memories.



I learned much from this trip.

Sunday 6th July 2014

I woke up late because I was still tired from the trip yesterday. I did my work and waited for results from batch. In the afternoon, I went to pick P'A and P'Fon from the Geneva Aeroport to CERN. Then, went to see P'Torn at the Bld.39 and talked with him till 5 P.M. In the evening, I talked with my friends on Skype and did my work before go to bed.

6th week

Monday 7th July 2014

It was rain last night. I went to bed at 3 A.M. and got up at 7 A.M. I was sleepy and felt sick today. This was the second week of the lecture series. Summer students knew more friends. I met three Malaysian who had just come here last week. We talked about last weekend and arranged a plan to Schaffhausen together next weekend. A lecture in Standard Model was awesome. The lecturer from Cornell University gave some good example. He's such a good lecturer because he knows how to present and he cares about background of the audience. While i was in the break-time, I met a new friend. He is Zedim from Brazil. He is a master student in particle physics working in LHCb. He was nice but we had a few minutes to talk together before the next lecture started. This day was the first day of Thai teachers in the High school teacher program. I met P'Torn at the restaurant but I didn't met P'Fon and P'A. In the afternoon, I worked at the library. I found that I'd done my work in the wrong workspace – that's why I couldn't get the results from CERN network. I tried to do it again in the right place and waited for the results. In the afternoon, I felt sick. I worked in the library and came back to the hostel. There were two electrical engineers at the hostel. They're from a country that I'd never known before. They asked me what country do I prefer –Thailand or Switzerland? My answer is Thailand forever. He asked for the reasons. I told them that the people in Thailand are nice and so kind. My country is very beautiful. We have a king. (One of them knows Thailand and the king of Thailand 😊, but I didn't know his country.) So I asked him the same question. Robert preferred his hometown but Stefano prefer Switzerland. Robert said that he could go to some places in his country within 20 minutes and his country is cheaper than Swiss. Stefano likes Swiss because it's more convenience than his country and there are many beautiful places in Swiss. I agreed with him but no place is better than home. I love Thailand. 😊

There was heavy rain in the evening. The Internet was shut down. I couldn't do my work. It's a bit serious now. It took about 2 days to run my jobs. If I make a mistake, it would waste time a lot. However there's no point to be worried at this time. I took some medicine and went to bed.

Tuesday 8th July 2014

Finally, I got results from CERN batch. This morning, I was so sleepy though I didn't go to bed last night. I tried to concentrate on the lectures but I fell asleep in the second lecture. However, I enjoyed the first lecture - introduction to particle physics by Grossman from University of Cornell. He raised some interesting questions

that I had never thought about it before. In the afternoon, I did my work at the library and went to see P'Phat before I went back to the hostel. At this time, I had to modify an analysis code in the calculation part. I wanted to get data from an analyzed file to calculation number of invisible Z events. This evening, Thai students cooked and had dinner together as usual. Before I went to bed, I wrote this diary and a to-do list for tomorrow.

Note for today:

- I must never judge a man who I have just known.
- A few people cannot represent the whole group.
- Think before doing something. There are 3 things you can't recover in life: the moment after it's missed, the word after it's said and the time after it's wasted.

Wednesday 9th July 2014

There was the last lecture in the Standard Model by Yuval Grossman from the University of Cornell. The lecture was about symmetry. I was enjoyed even I couldn't understand all of it. After the lecture, the audience applauded the speaker for his great lectures. The next lecture was an introduction to Theoretical particle physics. It was a bit hard to understand what the lecturer said and the contents are more difficult than the previous lecture. The last lecture of today was about electronics, detectors and DAQ (Data Acquisition) in the LHC from Italian lecturer. His accent was also hard to understand and the contents of the lecturer today were not that interesting. It's just an introduction in electronics things in the LHC. (Engineer students might think that it's more interesting than the Physics lectures. 😊) However, the second lecture of Electronics and DAQ would be more interesting because the lecturer would give us more details and examples.

In the evening, I brought P'A to the supermarket and cooked dinner with other Thai students, Wolfgang (My Austrian friend) and Stefano (A computer engineer from Malta). After dinner, we drank and talked with together in the kitchen till 10 A.M. I enjoyed that time. Tonight, the Internet was bad. I couldn't work on the CERN network. I wrote a diary instead of writing an analysis code. It's 0.32 – I'm going to bed after typing this line.

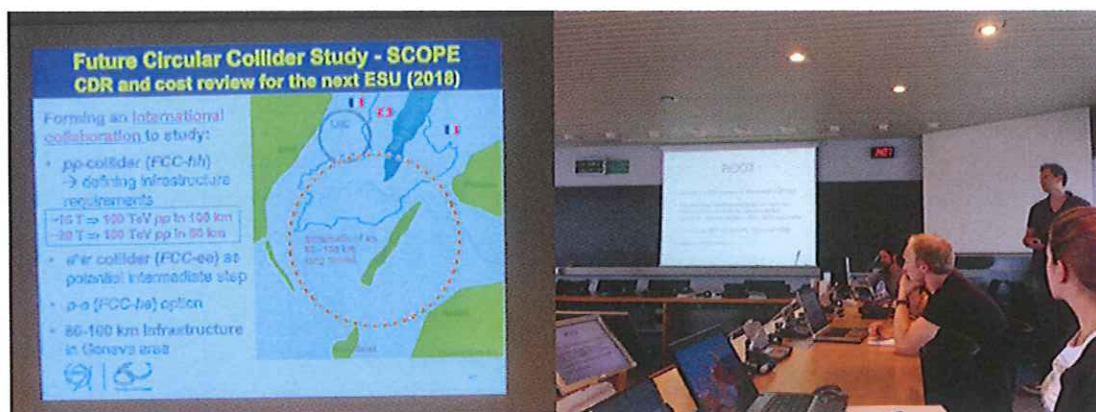
Thursday 10th July 2014

There was the first lecture about detectors in the morning. I tried not to fall asleep in the lecture room. Luckily, those lectures were interesting. In the afternoon, I worked in the library. I wrote many lines of calculation code but I could not run it at that time because of an Internet problem. I went to a Japanese restaurant in

Geneva with other Thai students and came back at 9 P.M. It was rainy all day. The cool weather reminded me to think of Chiang Mai, where I stayed for 4 years. I thought of my friends, my teachers and places in memory. This evening, P'Kwang bought ice cream for us to celebrate her finished thesis. I was thinking about staying overnight at CERN because the Internet at my hostel was suck. I wanted to work at night but I couldn't. ☹ I decided to write a report for Thai-CERN Collaboration program instead.

Friday 11th July 2014

This day I attended the lectures in the morning. There were Data Acquisition, Detectors and Introduction to CERN. I was impressed by the last lecture. It's about CERN history – 60 years ago to now and future! A lecturer showed an old picture of the SPS (Super Proton Synchrotron), an old site, and science instruments at that time. He introduced CERN's I wondered that they have a plan to build a bigger accelerator than LHC. It will lie over Swiss and France. (This slide inspired me a bit.) In the afternoon, Milk and I participated in the ROOT workshop. ROOT is a program used in Data Analysis tasks. There were three CERN staffs helping participants to follow a tutorial webpage. Those staffs introduced new released of the ROOT – ROOT 6. I learned how to plot and modify a histogram. ROOT is not only employed by CERN physicists but also by particle physicists in other facilities because of its wise structure. ROOT manages data like a tree. It stores data in branches as users can easily pick wanted data to use in their analysis.



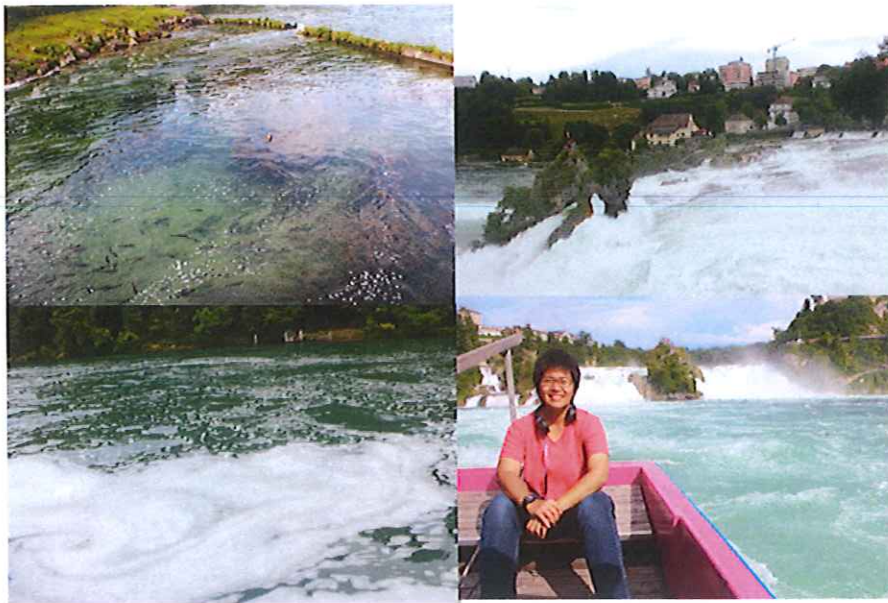
This evening P'Kwang went to dinner with her friend in Geneva downtown. ;) We stayed at the hostel and observed in a Facebook chat room. After dinner, I planned a trip at Schaffhausen and Zurich with Milk in the kitchen. This weekend, there were 2 people in this trip because P'Bird went to Zug to meet his friend and P'Kwang had to prepare for her final exam on Sunday.

Saturday 12th July 2014

I woke up so early. The destination of the day is Neuhausen. It's about 4 hours from Geneva. Milk and I stopped Stien am Rhein in the morning. Stein am Rhine is a small city and is a part of Schaffhausen state. It locates at Rhien riverside. Buildings in this city are unique because they are painted in old Swiss style. We had lunch at Le petit Cre'peries on the sightseeing route. I'd just realize that I lost a 50CHF-note on the way to Stien am Rhein. T^T I brought only 190 CHF for this 2 days-trip – 100 CHF for train, 30 CHF for a hostel and the rest for 3 meals. I was upset for a while then I tried to forget it and enjoyed the trip. We met two Thai travelers in Stien am Rhein. I knew that they are Thais because I heard Thai. I stopped walking and said hi. We talked a few minutes. I told them that we are working at CERN. Definitely, they didn't know CERN. I just told them that it's a high-energy physics research organization. (The word "physics" seems to make them not try to understand our job anymore.)



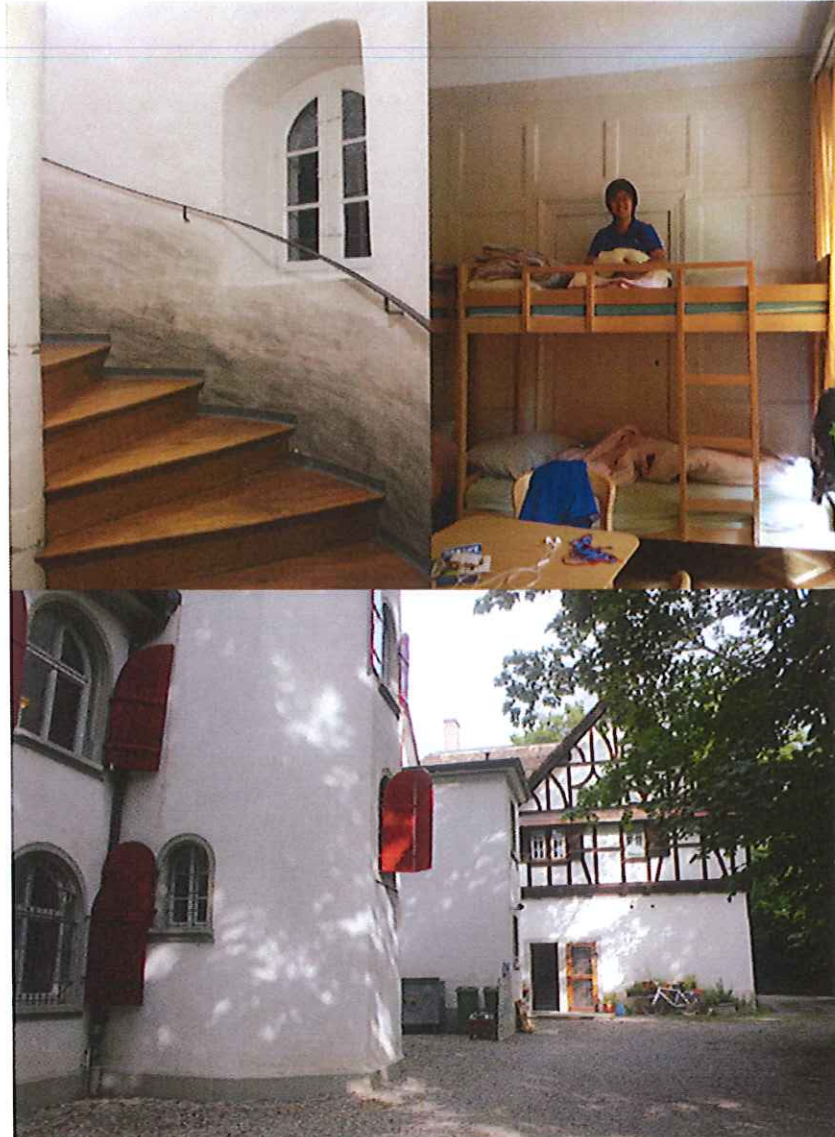
Around 2 P.M. we hopped a train to Neuhausen train station in Schaffhausen. Rheinfall is there! Rheinfall is the biggest waterfall in Europe. It's not that high but it's wide. The river flows rapidly. We bought a boat-trip sightseeing in the Rhein River and the Rheinfall. Luckily, there were only two people in the trip. 😊 We went around the river, took many photos and listened to the guide. I learned history of the Rhein River, Rheinfall, Schaffhausen and Zurich while I was in the trip. In the past, Zurich and Schaffhausen compete for mightiness. There was a fight for a little village located on the riverside. (Afterward, that village was sold to Zurich.) I also learned about ecology in the Rhein River. There are some kinds of trees which their root has a compound like detergent. It causes foam on the surface. However, water in the river is so cleared. I could see many kinds of fish. 😊



After visiting the Rheinfall, we went to the Schaffhausen Youth Hostel by bus. A ticket machine on the bus was in German only. We couldn't buy a ticket because we didn't know what to do. I asked a woman on the bus. She spoke English and kindly helped us to buy tickets. We arrive the hostel, checked-in and walked around the hostel. It was our first time to stay at a hostel in other country with other people. (We stayed in the 6 people – mixed room. There may be both man and women staying in the same room. The hostel was almost full when we booked. We had no choice.) It might be good experience. I picked linen from the reception, went to my room on the second floor and made my bed. (In this hostel, guests have to make their bed themselves and take linen back to the reception when they check out.) I paid 30 CHF for 1 night. (Breakfast is included.) Then, we went around Schaffhausen downtown. Buildings in Schaffhausen are different from buildings in other cities because they have a special kind of balcony. We visited Munot but unfortunately it's closed when we'd just arrived only 5 minutes.



It was about 9.30 P.M. We walked 1.5 km back to the hostel and met our roommates. There were two women and one boy. I said hi to them and climb to my place. (The boy slept on the bed below my bed.)



Sunday 13th July 2014

We woke up early, had Swiss breakfast at the hostel and caught a train to Zurich. As soon as I stepped a foot on a platform, I could realize the civilization. (Do I overstate? – I don't think so!) The train station is much bigger than train stations that I had been before. There were crowded whole city. (And definitely! - Everything in Zurich is more expensive than other cities.) There was rail maintenance in Bahnhofplatz. We didn't take a photo there.



It was rained at noon. We waited till the rain stopped and bought a short trip in Lake Zurich. I saw local people's life near Lake Zurich. Their lifestyle is a city-lifestyle. It reminded me to think about Bangkok people. (Even though people in Zurich and Bangkok are different.) Before we left Zurich, we visited the Munster church. (Photographind is not allowed in the church.) I took a train directly to Geneva and arrived at the hostel around 8 P.M.

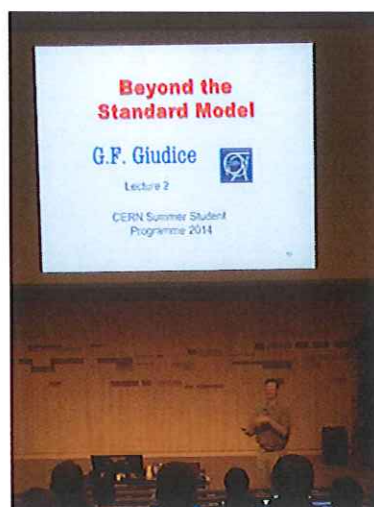


7th weekMonday 14th July 2014

This morning, there were lecture in beyond SM, Triggers and Detectors. I attend those lectures but computer students went to pick their advisor from Geneva Airport. In the afternoon, I worked in the library but I had some problems. I went to see P'Phat at his office before went to Geneva downtown to see P'Kwang and Dr.Teeranee. Dr.Teeranee is P'Kwang and P'Bird's advisor at KMUTT. She came here to visit CERN and be a committee for P'Kwang's thesis defense examination. We had cheese fondue at a restaurant in Geneva. She's smart and very nice. 😊 After meal, we went to her hotel near CERN. Then, Thai students took a tram to CERN and walked to the hostel. I arrived the hostel at midnight!

Tuesday 15th July 2014

A lecture in beyond Standard model was so fun. (Actually, I couldn't understand all of them at that moment but I got some ideas.) I appreciated in the lecturer's presentation. He presented in a nice way. Most of contents in his lecture were interesting. This afternoon, Milk and I attend the MADGRAPH workshop at CERN training center. MADGRAPH is useful for particle physics and LHC tasks. For example, it can be used to draw Feynman diagram, calculating scattering cross section and generate events. I tried to do those tasks through this afternoon and went back to the hostel in the evening. The Internet at my hostel's terrible as usual. I couldn't do my work. I realized that this was the seventh week of my program. I was expected to predict invisible Z in 8 weeks. I thought I have to work while I was in the lecture session tomorrow.



Wednesday 16th July 2014

This morning I attended 2 classes of beyond SM and skipped the third lecture, which is about detectors. I left the lecture room to work on my project in the library. I was serious that I had to finish estimating number of $Z(\nu, \nu)$ by using both W and photon by this month but I hadn't finished modifying an analysis code. This week, there were lectures in the morning and workshops/activities in the afternoon. I managed to work on my project at night but the Internet connection was bad. I thought about work overnight at CERN. The CERN library opens 24/7. I might do that before my supervisor leave CERN. In the afternoon, there was a cloud chamber workshop. We are the first group to use the CERN S'Cool Lab. This workshop was cool! I got new friend. He is Phillix, from German. I learned to make a homemade cloud chamber, saw particle tracks in the chamber.



The workshop finished about 4 P.M. I did my work before went to the hostel. Thai students rode a bike to the LHC Point 2, ALICE detector in France. We met Pierre, leader of the O-square project. He was a guide for the ALICE 'exclusive' tour. Why exclusive? There were only people in this group – Pierre, Dr.Teeranee, P'Kwang, P'Bird, Milk and I. Pierre kindly guided us to ALICE site. I saw the real ALICE, learned each part of the detector and how it works.



ALICE is not as big as the CMS. Its purposes are also different from the CMS but there is a muon tracker at one end of the ALICE. I asked Pierre why they put the

muon tracker only one side of the detector. His answer was about budget. O_O. However, ALICE 's main study is not muon but quark-gluon plasma. After visit, we said good-bye to Pierre and Dr.Teeranee and went to the hostel by bike. I tried to work at night but the Internet was still not work. It's 1.40 A.M. I'll try to figure it out till 2 A.M. otherwise I'll go to bed. ☹

Thursday 17th July 2014

There was a CMS induction session for newcomers. It started at 8.45P.M. There were 3 lectures in the morning. The first lecture was history of CMS and an introduction to CMS. The two following lectures were about tracker system and run coordination. Then, I went to the LHC Point 5 in Cessy. I had lunch there with a new friend – Barry. He is a mathematical student from the University of Harvard. Other two friends are from South Korea and Egypt. I visited underground site. The CMS guide was very cool. He had many interesting questions. He inspired us the entire trip. I am a scientist for tomorrow! ☺



After visit, I went back to work at the CERN library. This evening, I went to Geneva downtown to celebrate P'Kwang graduation. She finished her thesis defense today. Yeah! I had dinner at Café Du Center. After dinner, I didn't go back to the hostel. I just stopped at CERN and went to work at the CERN library from 11 P.M. to the morning next day. I called back home when it's about 7 A.M. in Thailand. I talked to my parents. They were having breakfast. We talked together for few minutes. I felt happy at that time. ☺



Nuttamas Tubsrinuan

11 ชั่วโมงที่แล้ว บริเวณ Geneva *

การอยู่ในเส้นเวลาต่างกันบางทีก็มีข้อดี ตอนอยู่ไทยทำงานดี ๆ หนื่อย ๆ ไร ๆ จะทำอะไร พอมาอยู่ที่นี้ทำงานดี ๆ หนื่อย ๆ ก็โทรกลับบ้านได้เพราะประเทศไทยเร็วกว่า 5 ชั่วโมง คอยกับพ่อแม่แล้วมีแรงทำงานถึงเช้าเลย ☺

I worked until I couldn't be awake anymore. I gave up coding at 4.30 A.M. then rode a bike back to the hostel. It's a bit scary biking alone at night in the place that is not my local area. However, the weather was nice. The sun hadn't risen so I could see stars while I was riding back. I arrived at the hostel at 5 A.M. and fell asleep as soon as I reached my bed.



Friday 18th July 2014

I got up at 7.45 A.M., had breakfast and took a shuttle bus to CERN. It was a second day in the CMS induction session. There were lectures in triggers and data analysis. I learned about physics objects and physics analysis groups. This might help me to do my project. I got a new friend. He is a Ph.D. student from University of Singapore. He suggested me to watch videos about data analysis in the CMS Meeting last week. In this afternoon, I worked in the library and finally I did it! My code worked. 😊 I could estimate invisible Z by using W+jets. P'Phat was busy so I couldn't go see him. I went back to the hostel, washed clothes and cooked dinner with Milk. Then, I packed my bag for a two-day trip this weekend. P'Kwang, P'Bird and Aj.Teeranee went to Zermatt today but Milk and I were still at CERN on this day. Tomorrow, I'll go to Interlaken and Jungfrau. 😊

Saturday 19th July 2014

I went to Interlaken Ost with P'Torn, P'Fon and Milk. We caught a train early in the morning. On the way to Interlaken, I saw beautiful view. I met Aj.Tiranee, P'Kwang and P'Bird there. We hopped a train to Jungfrau together. Jungfrau is named the "Top of Europe" but it's not the highest place in Europe. Top of Europe means that it's the highest train station in Europe. We did hiking around 1-2 km. We were so tired. It was my first time to see 'real' snow. Even there was ice covered all of mountains but it was not that cool. It was sunny. Finally, we could reach there! We

had lunch at the camp far away from the train station. Then, we walked back to the train station. On the way back, I got sick. I vomited on the train. Aj.Tiranee gave some medicine to me. Everyone helped me to get well. Thanks to them. 😊 After arriving Interlaken West, I and Milk had to find a backpacker hotel we'd booked. We found a hotel after walking for 15 minutes. I felt asleep as I reached my bed immediately.



Sunday 20th July 2014

Actually we planned to go to Schiltorn, another mountain in Interlaken but it's rained. We decided to hang around Interlaken instead. I bought some souvenirs for my family. Then, we had lunch together. Aj.Tiranee was so nice. I had a good time in this weekend. 😊 This's the best weekend in Switzerland for me. It's not because the place but people. I was very happy. On the train, I talked to Aj.Tiranee and P'Kwang. I got a lot of inspiration. Aj.Tiranee suggested me many tips for applying university in the U.S. She is a great teacher! I felt like I was at 'my QAO lab'. There was warm atmosphere when we are together. 😊 😊 😊 😊 😊



8th week

Monday 21st July 2014

I got up late because I was so tired. It was almost 9 so I didn't have breakfast. I went to CERN and talked to my colleagues at the QAO lab via Skype. Aj.Waranont and P'Dean were fine. P'Pik had to finish his Master's degree by this month. I wish he could do that. Hahaha. Today, I skipped lectures and did my project all day. I went to see P'Phat after I could predict $Z(\nu, \nu)$ by using W +jets background samples. What I have to do after this is to extend the range of data selection conditions in order to reduce statistical error in the prediction. Another task is to combine samples of $Z(\mu, \mu)$ and $W(\mu, \nu)$ in the invisible Z prediction. This evening, I went back to my room, had a quick-meal and went to CERN again. I worked there from the evening to late at night.

3.00 A.M. >> It's rained. I couldn't go back. So sleepy now.

Finally, I decided to ride back while it was raining. I took some pills before go to bed.

Tuesday 22nd July 2014

I got up late because of the medicine I took last night. However, I could catch a shuttle bus to CERN. I met the Ph.D. student from Singapore again. He was nice. He looks mature compared to other students. He talked to me like a student and a kind professor. Today, I had to skip lectures and spent time on my project. I had lunch with Milk and worked all afternoon. In the evening, I tried to work at my room because I was tired of work overnight at CERN. I felt sick again this night so I took some pills and went to bed around 1 A.M.

Wednesday 23rd July 2014

I woke up at 7 A.M. My dad called me. 😊 He was with his friends at Prommanusorn School. Then, I called mom. She was at her school too. I didn't go to

the classes but did my project in the library. I planned to watch lectures those I skipped in the CERN CDS later. In the afternoon, I had lunch quickly and went back to work. I went to see P'Phat in the evening and got some suggestions for my project. After office hours, I cooked at the hostel, took a shower and prepared to go to work at CERN but there was a thunderstorm. I couldn't ride a bike to CERN. Thus, I had to work at my room with the poor Internet connection. Tonight I edited my invisible Z prediction code, studied analysis notes and the MCFM, a program used to calculate cross section in the LHC experiment.

Note: I paid 374 EUR for a room in August. Exchange rate was lower than the day I came here.

Thursday 24th July 2014

I woke up late because I worked late at night. Came to CERN early. Worked in the morning. Worked in the afternoon. Went to have dinner in Geneva. Back to work at CERN. Worked overnight at ALICE office. I called mom at 3.30 A.M. It's too cold, so I couldn't ride back. Wait for the first bus to hostel.

Friday 25th July 2014

I arrived my room at 6.30 A.M. went to bed and slept immediately. I woke up at 7.45 had breakfast went to take a photo at the globe, had coffee and worked all day. I went to see a supervisor in the evening, went back to had dinner, took aspirin and went to bed at 8 P.M.

Saturday 26th July 2014

I woke up at 9, wrote a diary went to ALICE office and worked all day. It was rained. I called back home, talked to mom, dad and Peun. I had dinner at the restaurant. P'Torn left some food for us. At night, I went to party at CERN with P'Kwang, P'Bird, Milk and Laurence. I knew new friends. Jay (Mohummad) and Zimba from South Africa. This was my first time having party with international friends. It was a bit fun. After midnight, I went back to P'Kwang's office and worked all night long. I stopped working around 6.15 A.M. in the morning. Then, rode a bike back to my room.

Sunday 27th July 2014

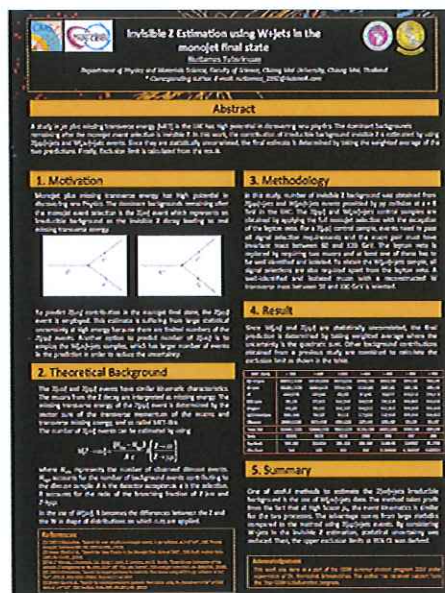
I arrived my room at 6.30 A.M. and fell asleep as soon as I reached my bed. I woke up around 11.30 A.M. I called my parents. They were doing housework. I washed my clothes and cooked breakfast. Then I biked to CERN and worked through

afternoon till 6.00 P.M. then rode back to hostel. Had dinner with P'Kwang and P'Bird. After having dinner, I continued writing a report at night.

9th week

Monday 28th July 2014

Last night, I went to bed at midnight - earlier than usual but I still felt sleepy when I woke up. I had a temperature. However, I could get up, had breakfast and called back home. I caught a shuttle bus to CERN. I finished modifying my code since late Saturday night (Actually, it's Sunday morning. ☹️) I did my poster for the poster presentation next week. This is my first draft.



Tuesday 29th July 2014

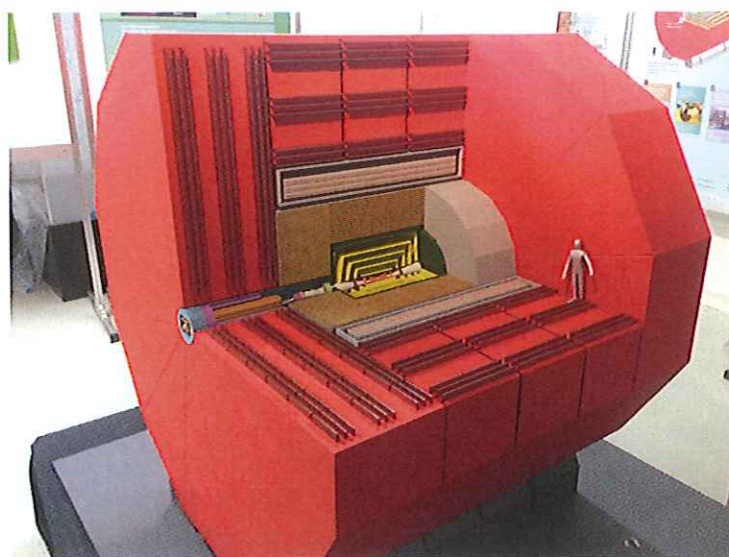
I came to CERN and wait for P'Phat at his desk in the morning. He was so busy so I could talk to him a few minutes. I found that my result was still wrong. I had to convert the upper limit, which is cross section to number of events. In the afternoon, I edited my result by modifying my calculation code. Then, I did my poster for the poster presentation next week. In the evening, I went back and had dinner with other Thai students. I talked with Wolfgang in the kitchen - same as every day. After dinner, I continued working till midnight and took aspirin before I went to bed.

Wednesday 30th July 2014

My supervisor left some comments in the Skype chat last night. I had to check my code again. I was so stress because this was the 9th week of working on this project and my supervisor's going to leave next day. I hurry came to CERN and checked all of my code again. I found that there were some abnormal input files generated when I was doing Monojet cut analysis. I tried to run it on the CERN network again but it took all day to do that. During the day, I did my poster and wrote a 5-page report for CERN. This afternoon I had lunch with Barry, a math student from Harvard University. He told me that he was sick and had to go to ER at a hospital. He had to pay a thousand francs for a medical service! He did some medical test (blood test/urine test/ I'm not sure if there's anything else.) and got some medicine. That's extremely expensive in my opinion. I don't know whether it's the same price for Swiss people.

At this time, I finished writing my first draft report and poster. I was waiting for the result from CERN batch so I spent time writing my diary. - What's the thing I haven't mentioned yet? - Yesterday, Barry shared his experience in his university. There is an Asian society in Harvard University. Every year, Asian students host an Asian festival. Students from each country create their cultural show on that night and sell some local food. Singapore students showed a drama story in the time after World War II. Milk asked him why he picked that story to present to other nationals. Barry said that at that time, the people in Singapore hadn't had a good life. It's the time before they recover. People need to work hard and build up their own country - that's why it's important history.

This afternoon, I had a chance to visit the CLIC Facility Test 3. CLIC stands for Collider Linear



I could not save my poster done in Photoshop because my computer memory was full. I'm not sure it's because I installed many software since I came to CERN. My laptop worked very slowly at this time. I hope that it will function till I finish this project. Wish me luck.

Tonight, I went to CERN to see P'Phat in order to discuss about my project. I told him what problems I found and talked about the presentation. After that, I went back to the hostel but Milk had to work at CERN because the Internet at the hostel is not good enough for work. I caught a bus from CERN to the hostel. On the way back, I faced with an exciting situation!



Thursday 31st July 2014

I slept about 6 hours last night. So good! 😊 This morning, I attended the lectures. I was glad to be in the lecture room. The lectures (and also the lecturers) inspired me a lot while the project doesn't. There was a lecture about ISOLDE. The ISOLDE (The on-line isotope mass separator) is a facility that produces radioactive ion beams for experiments in many fields, i.e. nuclear and atomic physics, solid-state physics, materials science and life sciences. I wish to visit there but there was very limited number of visitors. I could not apply to that visit. The third lecture of the day was about accelerators in cancer therapy. A lecturer has been in this field more than 20 years! He talked about effects of beam on the human tissue, especially brain. I thought it might be interesting for pedestrian, who are not familiar with physics and particle physics because this application is directly related to everyone's health. In the afternoon, I waited for result from CERN batch. (Some of jobs submitted to CERN

batch were lost. I still don't know why it happened. Someone kill my jobs? / a technical problem? But I'm sure that I did everything correctly when I submit my jobs to the batch.) While I was waiting, I did my poster for the presentation next week and watched some lectures that I missed during I was concentrated on my project. After dinner at the hostel, I checked my job again but it hadn't finished yet. I wrote this diary. I felt a bit upset that P'Kwang and P'Bird are going to leave next weekend. We had been here for many weeks. We helped each other and did many things together. They are so nice and kind. They are my great friends. I feel like we are a little family. ☺ P'Kwang asked me a question in this evening while we were walking to a supermarket. She asked me that if I get an offer to work at CERN, will I accept it? I hadn't think about it before but I could answer that question immediately. I'd love to but my duty won't be in the position that I was in this moment.

10.38 P.M. My jobs were finished!! I'm going analyze them now. Let's see what happened!

00.53 A.M. A few things in the final analysis result seemed to be better than the previous result but I found that there were other missing files. I don't know why it happened. I could just solve the facing problem by re-submit those job to batch again and wait for the result. Tonight I sent 6 jobs to batch. I think that the results will be returned to me on Saturday and that will waste time so much! T^T

1:45 A.M. four jobs are running. I hope they will be finished tomorrow. I am going to bed now.

Friday 1st August 2014

The last month for being here's coming. I felt happy and sad in the same time. This morning, I went to the class and attended the discussion session. There were few students left in the class after the lecture finished. In the afternoon, I did a PPT for presentation in the student session next two weeks. I had been waiting for the results from batch for many days. This evening, it hasn't finished yet. I had an appointment with Thai teachers. They were back from travelling in Swiss, Paris and Italy. I gave their belongings that they left at my hostel to them. Then, I went to Geneva with P'Kwang, P'Bird and Milk. We had dinner at a hamburger stand and had draft beer. We hung around Fete De Genève. This day was the Swiss National Day. There was a concert and cerebration near Lake Geneva. We danced at a hip-hop stage till almost midnight. Then, we were hurry to Gare Cornavin. The tram was out of service already. We had to take another tram to Bladonet and took a bus to the hostel. Unfortunately, we missed the bus because the tram arrived late just for one minute. We met a technical student there. He suggested that there was another bus

to go to St.Genis. So we followed him to the bus stop and hopped that bus to Malivert before we walked back to our hostel and arrived around 2 A.M. After arriving, I checked the result from batch. Finally, I got it!! I was excited. I analyzed it with my code immediately. Some parts of it agreed with the analysis note but some don't. I did my work till 5 A.M. I gave up and went to bed.



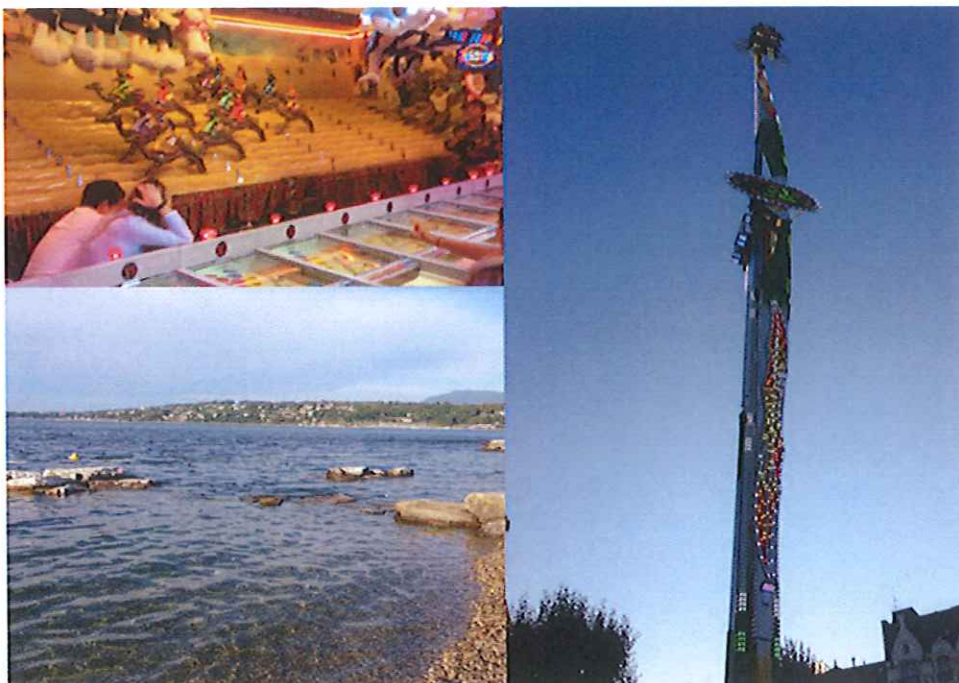
Saturday 2nd August 2014

I woke up at 9 o'clock, had a quick-breakfast and rode a bike to CERN. I worked at the library. I had a problem with the calculation of exclusion limit. I tried to do everything I could do but I thought that it still doesn't make sense. I asked a supervisor and waited for his suggestion. I stopped working and rode a bike to have lunch at the hostel around 3 P.M. It's rain again. I was so tired riding a bike through the rain. I felt sick a bit so I took a nap till Milk called me. I rode a bike to CERN and went to Geneva to see other Thai students and new friends from Austria. They are Martin and Daniel. They were the second-year physics students. We had dinner together. Today was P'Kwang's birthday. She bought drink for me and P'Bird. Milk had to go back to work at CERN. The rest hung around at the Fete De Genève. I and Martin tried an extreme-ride on the lakeside. P'Kwang topped up me for the ticket. It was very fun. I like it. We bought mango with sticky rice from Thai restaurant in the festival. It costs 12 CHF- so expensive but it's worth because we were home sick at that time. We enjoyed the festival till 5 P.M. Then we waited for the firework till 5.30 P.M. We watch the fireworks among the rain. It was fantastic. Then, we went back to CERN. Martin and Daniel drove us to the hostel. After arriving, I was back to work till 3 A.M. Then, went to bed. I hoped that I could finish it by this weekend.



Sunday 3rd August 2014

I woke up at 9 A.M. I called my parents. They were at Hua-Hin. I missed them so much. This day, I edited my poster and sent it to a supervisor. He hadn't answer my message yet. I wrote diary and cleaned my room in the afternoon. I went to CERN in order to send my poster to my supervisor via email. After that, I went to Fete De Geneve to relax with P'Kwang. We had dinner and ice cream before we walked around the festival. I and P'Kwang tried an extreme ride. It's one of my extreme experience. I could see top view of Geneva at the highest point.



After that, I tried magaritha- 40% alcohol 0.5 L at a bar in the festival. Martin and Daniel drove from Lausanne to see us. We drank at the bar before walked to the light house on the lakeside. I talked with Martin about his country and my

country. He was a second year student in Austria. Daniel and He got scholarship from their institute to work in CMS with their supervisor. I talked with Martin about his country and my country. Martin told me that in Austria, most of students want to be a doctor because a doctor is rich and luxury. Not many people want to be a scientist. To apply for a university, students have to take an exam but it's only for medicine, law and some faculty that I can't remember. First year students in Austria don't have to study Biology and Chemistry as science students in Thailand. They just have to study only Physics and Math. I think studying Biology and Chemistry as in Thailand is better than studying only two subjects. We have broad curriculum - we have more general knowledge so we can apply it with many situation in daily life. Then, we talked about food. I presented Thai food to him. He said that he likes mango with sticky rice that I let him try yesterday. Martin drove us back to the hostel. In Austria, there is a signature dish. It is a special kind of sausage which I could not remember its name. Another dish is a kind of food similar to Pork Gordonbleu. We shared experience to each other. Martin drove back around midnight. We picked Milk from CERN to the hostel.

10th week

** The 10th week diary was lost because my HDD was broken. I had to re-write it so there are not many details in this week.

Monday 4th August 2014

I sent my poster to my supervisor and went to work at CERN, attend lectures in the morning. A lecture of introduction to cosmology was so excited. I like the way that a lecturer present to students. It was very interesting. In the afternoon, I tried to recover all of my files from my broken HDD and then did a PPT for the student session next week.

Tue 5 August 2014. In the evening, I went to Geneva festival with P'Kwang and two Austrian guys.

Tuesday 5th August 2014

I went to work at CERN as usual. The cosmology lecture was the lecture of the day. This afternoon, P'Kwang and I went to ask for an LHCb visit at the reception building. Luckily, we got 6 places for the visit on Thursday. I went back to work and waited for a comment about my poster until 3 P.M. I couldn't wait anymore because the CERN print shop is closed at 4 P.M. I sent my poster to the print shop and I had to wait till tomorrow.

I got a message from him later that he was so busy so he couldn't check my work. So I made a right decision. This evening, I had dinner with all Thai students at the hostel and did a PPT before I went to CERN with P'Kwang. There was a Salsa workshop. I learned some basic steps and danced salsa with some summer students, physicists and engineers.

Wednesday 6th August 2014

This morning, there was a second lecture of the antimatter in the lab. A lecturer brought an antimatter trap in the Angels and Demon to the class. We were so excited. There were many students left in the class after the discussion session. ☺ There was a problem in printing my poster. I had to clear my laptop memory in order to save my poster file but my HDD didn't work! T^T Finally, P'Kwang helped me to solve it.

On this day, I met David, P'Kwang's friend. He was very nice. We went to the Globe together in the afternoon. This was my first time to the globe even I have been here for 10 weeks.

After that I went to the poster session. I enjoyed very much. There were many people participating in the session. I talked a lot and had fun! Students share their project and experience.

After the session, I went to Geneva to have dinner with P'Kwang, P'Bird, Martin and Daniel. Then went back to the hostel.

Thursday 7th August 2014

We went to the LHCb in the morning. There was an introduction lecture before we went to the site. The LHCb guide was nice. He is a physicist. He tried to explain everything I want to know. He answered my questions kindly. This visit took 3 hours but it was impressive. In the afternoon, I tried to recover my files but I hadn't finish yet. In the evening, I went to a Chinese restaurant in St.Genis with P'Bird, Milk, Noria, Boui and Vovo to have a special meal in the occasion of P'Bird's leaving. We walked back among the rain.

Friday 8th August 2014

I started to be upset because the two computer students would leave on the next day. I attended the closing lecture in the main auditorium. In the afternoon, I went to have lunch at R2 and came back to prepare my PPT. I sent my slides to summer student team in order to upload it on the summer student lecture webpage and went back to cook a special meal for us. This was the last meal that we have dinner together in Switzerland. We tried not to mention about the leaving. After

meal, I went to the CERN party with P'Kwang. I met a Hungarian guy. He cooked pizza and gave wine for us. It was rained. Martin picked me up to the hostel and taught me to drive his car in front of the hostel.

Saturday 9th August 2014

I woke up around 7 A.M. P'Kwang and P'Bird had to leave on this day. We tried not to build a sad moment. I help them to pack baggage and then we waited for Martin picking us to Geneva Aeroport. We parked a car at the airport and went to Geneva by bus. P'Kwang and P'Bird bought some souvenirs. We took a photo together in Geneva downtown. Eventually, they had to leave. We said good-bye at the airport. We were so sad at that time. P'Kwang will go to do her Ph.D. in America. We will not see for 5 years. I hope she will be happy and success in the future. After saying good-bye, I and Milk went to PHILIPPE museum. PATEK PHILIPPE is the most expensive watch in Switzerland. Products of this brand are hand-made. I saw watch in different styles. The museum shows history of watches and technology. A guide said that one of them is 100,000 CHF!! I walked around the museum and went to Asia store in order to buy some Thai ingredients. Then we went to Geneva festival. There was a bunch of people there! I saw a lot of people came to reserve a place for seeing PATEK fireworks since 5 P.M. I was noticed that if I want to see fireworks on a bridge, I have to buy a ticket. They are extremely expensive. They are sold out since 4 P.M. We couldn't buy a ticket so we found a place to sit near an extreme ride. I waited there since 6 P.M. till 10 P.M. The fireworks were very impressive. Someone told me that it's one of the biggest fireworks in Europe. I wish my family; P'Kwang and P'Bird were there. After the show, I went back to CERN and Martin took us to the hostel.

Sunday 10th August 2010

After hard working on weekends for 2 weeks, I had a plan to go to Basel this Sunday. Milk wanted to work so she decided not to go. Martin picked me up at the hostel around 8.30. We drove to Basel. Basel is a city in Switzerland connected to German and France but people there speak German. We visited a city hall, an old fountain, a beautiful bridge and Rhine river. We visited a Natural museum. The museum shows historical geology of Jura Mt. and Europe. I saw a lot of fossils. There are also exhibition about ancient animals. Everything in the museum is in German. Martin translated to English for me. We drove back to Geneva around 5.00 P.M. and arrived at my hostel around 7.45 P.M. On the way back, I talked with Martin about his country and I tried to learn some German words from him. This evening, I tried

another drive in front of the hostel. After arrival, I washed my clothes and rehearsed my presentation before I went to bed.

11th week

Monday 11th August 2014

I called my parents in the morning, went to CERN and prepared myself for the student session on Wednesday. This evening, I cooked and had dinner with Milk. We missed P'Kwang and P'Bird so much so we took a photo and sent it to them. After that I rehearsed for the presentation in the student session. I cleared a cupboard in my room and put some stuff in my bag. I thought about going back home at that time.

Tuesday 12th August 2014

This day is Mother's day in Thailand. I had been thinking about special thing I can do for my mom but I had no idea. I call her every day. I thought that I might just called back home as usual. This morning, Milk gave a talk in a student session at the main auditorium. I took photos of her. Then, I prepare myself for my presentation tomorrow. I went to my room and called my parents. Today was the Mother's day. We talked together but longer than other days. My mom had got headache. I suggested her to see a doctor. My sister was at Siriraj. She had to prepare herself for an exam. She was so stressed because this year is the first year that she started studying at the hospital. I didn't know what to do to help her right now. I just suggested her to relax and do her best.

P'Kwang had to leave Thailand and go to US next day. I called her via skype to encourage and say good-bye to her.

Wednesday 13th August 2014

I woke up early in order to rehearse for my presentation this morning. I was so excited and nervous. There was something interrupting me. P'Bird told me to concentrate on the presentation. Thanks to him for encouraging me this morning. I rehearsed again before leaving the hostel. Finally, it's time. I presented my work in front of many students and their supervisors. Some of them had supervisors coming in the session. After the student session, I had lunch with Milk, Daniel and Martin. I played table tennis with Daniel, Martin and a Chinese guy we met around there. Then, I went to write a report in the CERN library and went back to the hotel. This night, I spent time writing my diary. My 10th week diary was lost. I had to write it

again. After that, I wrote a report before I went to bed. I felt so tired both physical and mind. I thought about finishing all of these things and going back home.

Thursday 14th August 2014

I was so tired yesterday. I got up late but it didn't matter because there was no lecture anymore. I went to the dosimeter department to get a dosimeter, a radiation measurement device, for a silicon sensor workshop in the afternoon. I did a test on the Internet, went to the dosimeter department with my CERN access card and scanned my eyes in an identification process. After that, I went to the last student session at the main auditorium. I sent my 5 pages-report to my supervisor again. In the afternoon, I walked to the silicon sensor workshop. It was a bit far. The workshop was so awesome. It's the best workshop that I've done! 😊 I came back to the hostel around 6.30 P.M. Milk cooked for me. Thanks for her kindness. Then I went back to my room, wrote a report and diary till 2 A.M.

Friday 15th August 2014

I called back home in the morning. Every time I call back home, I get a lot of encouragement even they don't say anything. 😊 This day I went to CERN, worked and watched some lectures that I missed during the lecture program because of works. In the afternoon, I went to visit a 'clean room' near the silicon sensor department. I learned how to make connections on a silicon wafer. I saw how to do it. I saw its structure by using a microscope. The visit was very fun. I could do hands-on things. The staffs are very kind.

In the evening, after dinner, I wrote a report for the Thai-CERN collaboration and helped Milk to send her jobs to run on CERN batch. Finally, we did it! Milk could reach her goal before the last bus of this night came.

Saturday 16th August 2014

I escaped serious things at CERN to Zermatt on this day. I went to Zermatt with Milk. After arriving Zermatt around 12.00 A.M., we took a train to Sunnegga then rode a cable car to Rothorn. It was very cloudy. I couldn't see Matterhorn. We walked downhill from Bluaherd more than 10 km to Zermatt. The nature is always wonderful. This was the first time I saw the real geological structure that I have studied in a university. In the evening, we had cheese fondue and a local dish in a restaurant in Zermatt. After we arrived to Zermatt Youth Hostel, I checked my work before I went to sleep.

Sunday 17th August 2014

I left Zermatt early morning, hopped a train to Engelberg. I arrived Engelberg around noon. There was so crowded! We had to wait very long for a cable car. Finally, we reached there around 3 P.M. We first took an Ice-Flyer to ride a snow tube but we couldn't walk on the walking way of Titlis. It was cloudy. We couldn't see anything on the bridge. Because of many people, we had to hurry to get to a cable car around 4.30 P.M. Thus, we didn't visit other parts of Titlis. The last train from Engelberg to Geneva would depart around 8 P.M. Fortunately, a Titlis cable car staff helped us and some of passengers to go down with an old cable car. We were at the Engelberg train station before 6 P.M. 😊 The train from Engelberg stopped at Luzern around 7 P.M. There was an announcement when we were on the train from Luzern to Lausanne but it was in French. After the train departed from Luzern, we were noticed that there was an accident near Bern. Trains had to be delayed and we had to change a train in Olten, which took time much longer than usual. Finally, a train from Zurich rescued us. We arrived Geneva around 11 P.M.

12th week**Monday 19th August 2014**

Supervisor answered my message about my work. In the afternoon, I attended a workshop in LHCb master class. I learned how to do physics analysis by using LHCb software. It's a good opportunity to study new software in other experiment. It was a GUI thing. I could see a reconstructed event from real data in the experiment. The second thing was how to select data in analysis. I followed instruction on a website and discussed my results with instructors. In the evening, I went to SNCF – a French train station with Milk. It's very far from my place. I paid 10.2 Euros for the trip. It was a bit hard to get there. I walked so far in order to find a bus station. This evening I did a small exercise after I didn't do it for a long time then I spent time writing a report till 2 A.M.

Tuesday 20th August 2014

This was the last week for me at CERN. I had to start pack my bag and clear everything before leaving. I went to CERN in the morning, watched summer student lectures that I'm interested in. I wrote a report and diary before I went to Geneva in order to look for a gift for my father. I went back and cooked dinner with Milk in the evening. Milk had some problems with her work. I proposed some ideas and suggestions to her. I hoped that they could help her to finish her project.

It's the last week for me to be here. I felt happy and sad in the same time. I was happy because it was going to the end of program. I wouldn't have to work with something I don't like and I wouldn't frustrate anymore. I was sad because I like CERN very much. It's such a good place to work. I hope to come here again. 😊

Wednesday 21st August 2014

On this day, I wrote a report at my room before went to CERN. I went around CERN in order to complete a leaving form. Before leaving, a summer student has to return tools, keys and ID card given on arrival day to CERN. I went to an installation service and return a bike at bicycle service. After working, I called back home and packed some stuff for leaving.

Thursday 22nd August 2014

I went to work at CERN, watched lectures on the CERN CDS. This day I still waited for my report. During the day, I went to CMS to fill the leaving form. In the evening, I went to Geneva and came back to have dinner with Milk at the hostel.

Friday 23rd August 2014

It was my last day at CERN. I returned my CERN ID card to a staff and complete the leaving form. I went to the HR department to get a certificate from CERN then I went to say good bye to my friends. In the evening, my supervisor called me and told me that he was too busy so he didn't send comments for the report to me. He told me to edit some wordings in the report and send the report to him after uploading it on the CERN website. I went back to my hostel, had dinner and went to CERN again to edit my report. After I finished uploading my report on CDS, I went to the summer student concert. There was a music show by summer students. I could be there for half an hour because I had to go back to the hostel. I had to leave on Saturday morning. 😊