ASPIRE Forum 2019

10th

Student Workshop

July 8- July 12, 2019
Tokyo Institute of Technology

Tokyo Tech
Student Reports

Schedule

	July 8 (Mon)	July 9 (Tue)	July 10 (Wed)	July 11 (Thu)	July 12 (Fri)	July 13 (Sat)
	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
0900–1200	Arrival of Students to Tokyo Tech Campus or Hotel *New Otani Inn*	9:00-12:30 Lecture (45min) + Discussion (15min) Ferrite Memorial Hall Foyer Museum and Centennial Hall Building, 3rd Floor	9:00-18:00 Site Visits (2-3 places in Tokyo area)	9:30-12:00 ASPIRE Symposium Ferrite Memorial Hall Museum and Centennial Hall Building, 3rd Floor (ASPIRE Students attend as well)	9:00-13:00 ASPIRE Students' Presentations to VPs & Senior Staff Ferrite Memorial Hall Museum and Centennial Hall Building, 3rd Floor	Check-out
1230–1400		Lunch Foyer Museum and Centennial Hall Building, 3rd Floor		12:10-14:00 Lunch (for all delegates) Meeting Space Museum and Centennial Hall Building, 4th Floor	13:00-14:00 Closing Lunch (for all delegates) Meeting Space Museum and Centennial Hall Building, 4th Floor	
1430–1730	Registration Orientation Ferrite Memorial Hall Foyer Museum and Centennial Hall Building, 3rd Floor	14:00-18:00 Group Work Museum and Centennial Hall Building, 1st Floor		14:00-18:00 Group Work Museum and Centennial Hall Building, 1st Floor	14:00- Free time (Sightseeing in Tokyo by group)	Depart for Home Country
1800–1930	Dinner Museum and Centennial Hall Building, 1st Floor	Dinner *Cafeteria*	Dinner *Restaurant in Odaiba*	Dinner *Cafeteria*		
1930–2100	Group Work Museum and Centennial Hall Building, 1st Floor	19:00-21:00 Group Work Museum and Centennial Hall Building, 1st Floor		19:00-21:00 Group Work Museum and Centennial Hall Building, 1st Floor		

Tokyo Tech Participants

No.	プログラム	英字/漢字	フリガナ	所属	学年
1	ASPIRE Forum 2019 Student Workshop	LI Cui	リ　シイ	環境・社会理工学院 土木・環境工学系	M1
2		大川 玲	オオカワ レイ	工学院 経営工学系	M2
3		DONG Haoyang	ドン ハオヤン	工学院 情報通信系	M1
4		LI Yuanhao	リー ユアンホ	工学院 情報通信系	M1
5		Luthfan Anshar Lubis	ルスファン アンシャー ルビス	情報理工学院 数理・計算科学系	M1

Report of ASPIRE Student Workshop 2019 at Tokyo Tech

① **Aim in participating in the ASPIRE Student Workshop**

To be honest, the reason for joining this workshop is that I wanted to challenge myself, to make more friends, to have connection with young people from different backgrounds and improve myself in turn.

② **Preparations before your program**

I collected some information of this workshop through the homepage of Tokyo Tech team and other member universities. And I also searched keyword "Aspire program" on SNS like Twitter and Facebook to get some shared photos and experience.

For language, I used to think it was not necessary for me to specially learn more English for this workshop because I'm an international student in Tokyo Tech (originally from China). However, after this program, I realized there were still a lot for me to improve regarding the usage of English for an efficient communication and presentation, and it spurred me to continue to learn the language.

③ **Impressions of activities during your program**

My first impression of our activities is "compact".

The schedule of all students were designed from the morning to 9 pm in the evening. Except for the first day and the last day (opening ceremony and closing ceremony), we were all very exhausted when we came back to our hotel after intensive brainstorming, discussion or visiting. But we could still find something to do, three boys in my group would go out for a drink nearby our hotel, and other girls who were to tired to go out would stay at hotel and talked about cosmetics and TV dramas. Our "private activities" actually brought more fun to young people in their 20s and promoted our friendship further.

Hundreds of photos ALERT!!!

(I was guiding my group members to use LINE which they were all so obsessed with the stickers)

(My group in lunch)

(Restaurant at Daiba)

(Jogging around Daiba area)

(visiting TeamLab with group members)

The excellent lectures and visiting of NHK/AIST given us interest and knowledge in the aspect of science and technology. Most of the 30 students were from unrelated scientific backgrounds to the lecture, and those interdisciplinary activities did open to us a brand new world of science and innovation. (TMI: the food in the NHK cafeteria were less tasty than our campus cafeteria)

(listening lecture at NHK research center)

(Group photo of all the presidents, staffs and students)

④ An episode in which you noticed personal growth since you completed the program

Before I took part in the program, I was having trouble in my research. Every time when I discussed my research with professor, I feel unconfident and mentally sensitive. But after 5 days training and working with excellent Phd students, I found myself used to be so naive and not strong enough. My group members were really strong-minded and having extraordinary research abilities. Though at first we knew nothing about our topic, they were not worried and they could quickly find effective reading materials to approach the field. One member from NTU really taught me a lot. Now I'm not afraid of my research even it's difficult and I have the confidence of doing well.

⑤ Cost of program

The accommodation and daily meals are free for the five days, and the Aspire team gave us the necessary transportation fee during the program. No insurance or scholarships.
The extra fee may exist when you go out and have fun with your group members.

⑥ Your living arrangements during the program

Type of accommodation: a nice Hotel near Osaki station (double-bed room with table and desk)
Method of application: not necessary to apply by yourself
Roommate: randomly decided by the Aspire team. My roommate was from ETH.

⑦ Language study during the program

This program may help you improve your listening and speaking skills. You can hear many different accent of English during this program, for example, Korean-English, Chinese-English, Indian-English, Germany-English, as many as you can imagine. Don't be afraid of reaching to people and talk, you'll get a lot.

⑧ How you want to utilize the experience(s) from now on

It's hard to say at present that how I will utilize the experience here from the program. But one point is that I knew I got improved both in personal ability and mental condition. It encouraged me to work harder and get better, to study more language and to set my life goals higher.

⑨ **Any trouble or issues you faced and how you solved the problem**

My biggest trouble was that when I participating in this program, I still had a lot of reports to write because it was exactly in the final week. During the program, I did the group work with members in the daytime and worked on my reports in the nighttime. And for the final presentation, I contributed only in limited effort because of school work which was, a great regret for me.
Therefore, a suggestion is that make sure you finished all of your other work and totally devote yourself in the program, and you can enjoy and learn more.

⑩ **What did you feel about advantage and disadvantage to participate in the program hosted at Tokyo Tech?**

The advantage is the convenience of being in Tokyo. Everything is familiar and less challengeable. And your group members would rely more on you which is a good reason to make friends.
The disadvantage is that compared with the other program, we only stayed in Tokyo and didn't have the chance to visiting a different country and experiencing different culture.

⑪ **Any recommendation for students who wish to participate ASPIRE Student Workshop 2020 @ Tokyo Tech**

Make sure that you have accomplished all your school work and enjoy the program!
And don't be shy to talk to other students. They'll be very glad to have conversation with you!

About this report

1） There is no designated format for this report. No matter what format you use, you <u>must include the contents indicated below and insert photos taken during the program.</u>

2）**Submit to：** <u>aspiretokyotech@jim.titech.ac.jp</u> (**Please send the document as a Word file**)

Report contents

① **Aim in participating in the ASPIRE Student Workshop**

Please include the reason why you chose this program hosted at Tokyo Tech, not other study abroad programs.

② **Preparations before your program**

This could include explanation of the method(s) you used to collect information about the program, any preparatory language study or research you did, how to introduce Tokyo Tech to other students from other countries, etc. If you had a chance to discuss with other Tokyo Tech participants or Tokyo Tech ASPIRE Team, please mention any preparations or communications you made before participating the program.

③ **Impressions of activities during your program**

Please describe your impressions of any special activities you did during your time in program.

④ **An episode in which you noticed personal growth since you completed the program**

Since completing the program, have you had any instances in which you experienced a sense of how much you had grown through your experiences interacting with students from other countries and studying, doing research and group work? Looking at the goals you set for yourself in participating in the program and considering your successes and difficulties, please share the most memorable episode in which you felt a sense of personal growth.

⑤ **Cost of program**

Transportation expenses, program participation fees, living expenses, rent or rooming fees, insurance, scholarships, etc.

⑥ **Your living arrangements during the program**

Type of accommodation (dormitory, homestay, etc.), method of application, roommate(s), etc.

Report of Aspire Forum Student Workshop 2019

Rei Okawa, School of Engineering, Department of Industrial Engineering and Economics

Aim in participating in the ASPIRE Student Workshop

　「Aspire Forum Student Workshop 2019」 に参加しようと思ったきっかけは、中国での留学経験にあります。科学技術の発展著しい中国での留学生活を経験する中で、アジア地域において将来の科学技術との向き合い方について考える機会を持ちたいと思うようになりました。アジアの理工系トップレベルの大学から学生が集うこのワークショップは絶好の機会だと思い参加しました。さらにこのワークショップは約１週間という短い期間で開催されるため、日程的に参加しやすかったのもきっかけの１つです。

Preparations before the program

　言語に関しては、特別な準備はしませんでした。ただ日頃から論文等を読む中で、留学生と議論ができる程度の語彙力はキープしてきました。言語を勉強する時間もあまりなかったので、研究と同時にどれだけ語彙を吸収するかが鍵でした。ワークショップで扱われるテーマについては、ワークショップ開催前にテーマに関する最近の研究状況や市場の動きなどをウェブ

サイトを通して調べて臨みました。テーマが自分の専門とはマッチしていなかったのですが、準備を万全にしていったので生産的な議論ができました。自分の担当しなかったテーマについても調べていったので、ワークショップ全体の議論が非常に魅力的で興味深いものでした。

Impressions of activities during the program

活動は終始刺激的で楽しいものでした。まず 1 週間を通して行ったグループワークに関しては、時間が限られている中かなり完成度の高いものを発表できたと思います。どのグループも同じように完成度が高く、充実した 1 週間だったのではないかと思います。自分のグループのテーマは、社会的弱者への配慮を組み込んだユニバーサルトイレの提案でした。グループのメンバー全員が初めて取り組むテーマでしたが、みんながそれぞれ個人の研究バックグランドなどを上手に反映させながらみんなで素晴らしいものを仕上げることができたと思います。
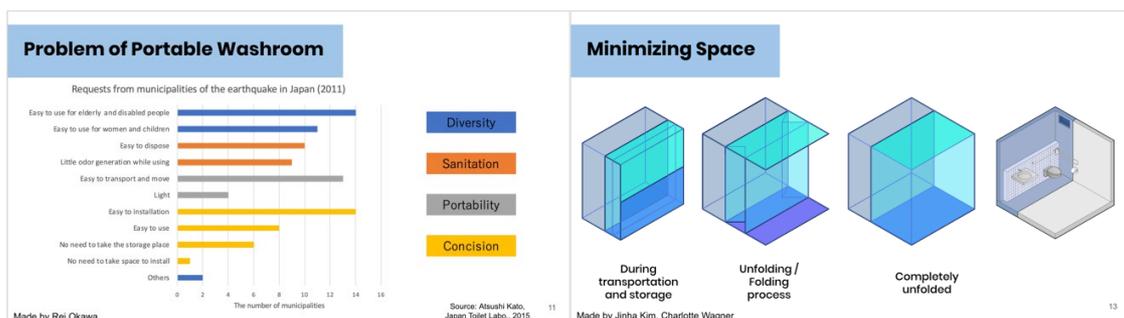
企業見学も非常に魅力的でした。普段だとなかなか見学できないような場所を見学させていただいて、最新技術に終始圧倒されました。講義とフィールドワークがバランスよく組み合わされていたので、各イベントにしっかりコミットできました。
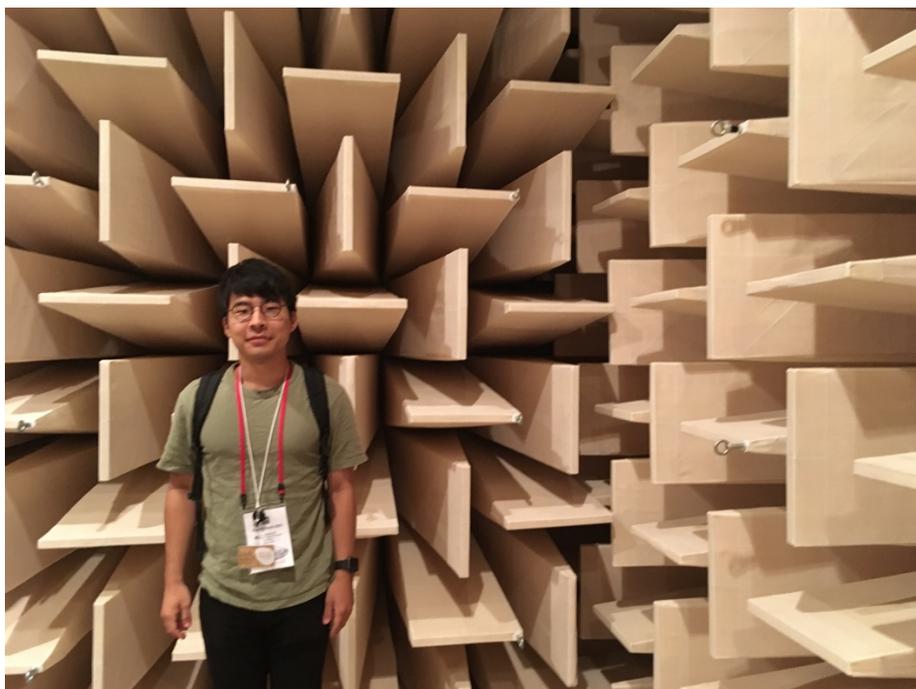
An episode in which I noticed personal growth since I completed the program

　時間に追い込まれながらも最終的になんとか形にする力は伸びたと思います。グループワークでは、当然個人で処理しなければならない作業もある中で、メンバーに迷惑をかけないように時間内で形にすることが要求されました。この力は現在研究に追い込まれる生活を送る中でワークショプの時に成長したなと実感したものです。あとは、同じ世代の優秀なグループメンバーとともに活動する中で、彼らが自分にとって目標に変わりました。現在はそれぞれ違う国で活動しているとはいえ、同年代で活躍している彼らに負けずと自分も努力を重ねようと意識が高まりました。

Cost of program

　このワークショップの費用はほとんど大学によって負担されているので、費用的な障壁は全くありませんでした。自分で支払いをしたのは、他大学から来た学生と街に出て観光したり、食事に行く時くらいでした。

Living arrangements during the program

　プログラム中は、大崎駅近のホテルに滞在していたため、学校まで短時間で行くことができました。通勤ラッシュアワーとも重ならず、他大学から来ている学生も安心して学校までいけている様子でした。(逆方面行きの電車の混み具合に苦笑いしていました。)

Language study during the program

　TOEIC は数年前に 800 点を超えていました(参考程度)。ただワークショップでは、やはり意見を伝えようとすることが大切だったと思います。ワークショップではやはり英語でコミュニケーションをする機会が多かったので、ワークショップを終えた後でもスムーズに言葉が出やすかった印象はありました。

How I want to utilize the experience(s) from now on

　今回のようなワークショップに参加したのは今回が初めてでした。その中で得られた経験は非常に多かったように思います。まず、今回のワークショップに参加して数多くの優秀な仲間に出会うことができました。これから先も定期的に連絡を取り合うことで、研究や仕事のヒン

トなどを得られたらと期待しています。

Any trouble or issues I faced and how I solved the problem

　グループワークでは、当然のことながら意見の対立が生じてしまうこともありました。しかし、自分のグループでは、基本的にそのような時にはみんなで解決をするように努力しました。その結果として、最終的にはグループメンバーみんなが納得するような案で発表することができました。発表日前日にファミレスで遅くまで準備して準備が終了した時には、達成感に包まれており、グループが完全に一体となったひと時でした。

What did I feel about advantage and disadvantage to participate in the program hosted at Tokyo Tech?

　このワークショップに参加するメリットは、日本という技術の先進国で他国の理工系学生と交流できることだと思います。普段生活していると当たり前だと思っていることでも、他国では生活レベルまで浸透していなかったりするので、日本の技術力の強さを再認識する機会となりました。個人的に非常に満足のいくワークショップであったのでデメリットをあげるのが難しいですが、強いてあげるのであれば学生にとって 1 週間ずっとコミットするのが難しいということかもしれません。ただ、学べることが非常に多いので、忙しい大学院生でも時間をなんとか作って参加する価値がしっかりあると思います。

Any recommendation for students who wish to participate ASPIRE Student Workshop 2020 @ Tokyo Tech

　東京工業大学の留学状況なども見てみると、東京工業大学の学生は決してこういった他国から学生が参加するようなワークショップの参加に積極的ではないかもしれません。その一つの理由に、理工系大学であるがゆえに研究活動が非常に忙しいことが考えられます。ただ、こういったワークショップは研究とは全く無縁のものと考えるのではなく、研究のヒントを得る機会という考え方に変えてもらいたいです。実際、集まる学生は理工系の学生なので、意見を交換する中で大きなヒントが得られるかもしれません。来年も多くの学生がワークショップに参加して、一人でも多く自分と同じように有意義な時間を過ごせることを願っています。

1. Aim in participating in the ASPIRE Student Workshop

When applying for the program, I thought that to be one participant in ASPIRE Student Workshop, which is an exchange program for graduate students, can help me improve myself in many ways, like teamwork, language level, professional skills, etc. Since it was held at Tokyo Tech this time, it was much more convenient for me to join in. Also, to be one of the representatives of Tokyo Tech was an honor for me.

2. Preparations before the program

As one of the student participants of Tokyo Tech where the program was held, I was requested to perform as a host and a leader of my own group. So I reviewed the map of the campus, the schedule of the program, the list of the members of my group, and all the other files I can find. We also had a pre-meeting about the topics and other things which are important. We are also asked to get the spot early to welcome the participants from other universities.

3. Impressions of activities during the program

There are several activities during the program, like lectures, site visits, group works, presentations, etc.

Since the professors who gave the lectures were from different universities and were charming and full of energy, the lectures were interesting and inspiring.

My professor giving a speech

A student asking questions during the lecture

The site visits were amazing because each of the companies and labs had its own advanced technology and had professionals for expounding.


Me and other students at Odaiba beach

The group works, which needed a lot of discussions and communications among members of groups, took the most time of the program so they were little tiring but still enjoyable.

A group doing group work

The final presentations were fantastic because all the groups had tried their best.

Me giving the presentation

4.   An episode in which I noticed personal growth since I completed the program

I found myself did better in teamwork than before after the program. I thought that should thank for the group works in which I was actually forced to study, to communicate, and to cooperate with my group members. Hence, I made huge progress at my ability and skills in teamwork.

My group doing group work

5. Cost of program

    Since the accommodation and the foods were free, and the transportation fee (mainly cost by going to and from the campus and the hotel) were reimbursed, I actually didn't spend much.

A nice buffet provided by Tokyo Tech

6. Type of accommodation (dormitory, homestay, etc.), method of application, roommate(s), etc.

    We were all lived in a hotel called New Otani Inn, which was nice and neat and not far away from campus. The hotel was booked in advance by the officers of ASPIRE and the room was provided for two students in the same gender who were randomly assigned. The breakfast provided by the hotel were delicious, by the way.

One meal of mine during the days in the hotel

7. Language study during the program

My English level was greatly improved by continuously talking with other students and some of them were native speakers of English. I even managed to pick up several words in Korean since one of my group members was Korean.

8. How I want to utilize the experience(s) from now on

I will use those experiences and skills gained from the program in daily work, in teamwork in my lab, and other programs I will attend. Also, I will work harder to make myself better.

9. Any trouble or issues you faced and how you solved the problem

They were several disagreements during the group work when preparing for the final presentation and we didn't complete the plans by the deadline. So I Agreed to disagree, and stayed up late to make the powerpoint before the final day. I even managed to hold a small meeting in the hotel before we got to the campus for the presentation.

10. Advantages and disadvantages to participate in the program hosted at Tokyo Tech?

As a student of Tokyo Tech, hosting the program at Tokyo Tech could be both positive and negative.

The advantages are the convenience, trouble-saving, and time-saving, since I was living in Tokyo and familiar with the campus.

The disadvantage is the fact that I didn't had the chance to go abroad, unlike the the students from other universities.

11. Recommendation for students who wish to participate ASPIRE Student Workshop 2020 @ Tokyo Tech

Do not worry about your language level or professional skills, just have fun.

Report of Program ASPIRE Student Workshop2019

LI Yuanhao

Department of Information and Communications Engineering
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Aim in participating in the ASPIRE Student Workshop

Since being interested to participate a summer program, I compared the information of each program. Among these programs, I found that the ASPIRE League consist of several universities I have been interested in for a long term. I am an international student from China, for which I desire to communicate with those students from Tsinghua University because it is the best university in China. Moreover, I have been interested in NTU and HKUST since I decided to study abroad at the fourth grade of my undergraduate. Most of ASPIRE universities are largely attractive to me, and I desire to communicate with students from these universities to comprehend the philosophy of each university, which is precisely the reason why I chose to participate in the ASPIRE Student Workshop.

Preparations before your program

I got to know this program from the Tokyo Tech Mail News. These was a brief introduction about this program. Based on the above-mentioned reason, I began to search the detailed information in the official website and to check if the schedule can match my own schedule. After confirming these, I began to apply for this program.

In order to obtain the qualification to be a participant, first I need to pass the interview by the International Affairs Division. The interview was totally in English to verify if the candidate could complete conversations in thus an international program. The most important in my opinion is to keep calm for those whose mother tongue is not English. Sometimes there will be situations in which the two sides cannot understand each other's meaning. The correct way is to patiently re-express or ask the other to re-narrative, rather than being too nervous to continue the dialogue.

After passing the interview, I attended a preparation meeting with other students to confirm the schedule and details of the entire program period, especially contact of the program leader when special circumstances occur. Compared to previous years, we need to undertake more responsibilities this year because ASPIRE 2019 is held in Tokyo Tech. As a host, we need to provide the necessary guidance and help for the students who come to Tokyo Tech. In the preparation meeting, I received the group list and remembered the group members' names.

Impressions of activities during your program
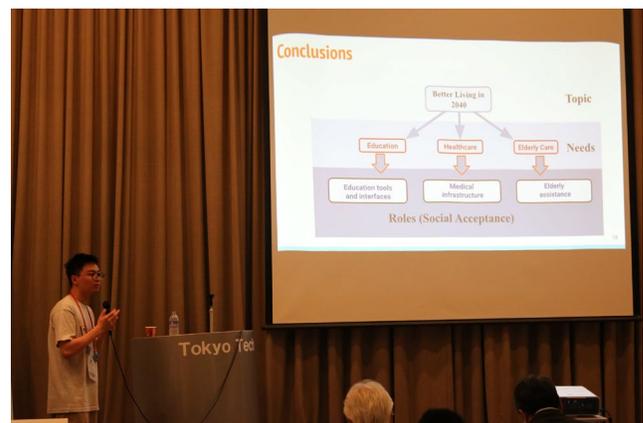
The most impressive activity in the program, also the main component of the program, is the group work for the final presentation. The theme of the presentation is 'The roles Robots and Robotic Technology can play to ensure Better Living for the socially vulnerable'. At the beginning, we group didn't have a good understanding of this topic. We were wondering where to start. After some discussion, we began to clarify each concept in the topic, then divided the whole topic into several parts, and each person was responsible for each one part. In the group work, we also encountered some problems, such as differences in certain details, but finally eliminated these problems through communication and communication, and made the final presentation. Unfortunately, our publication did not satisfy the judges, because our content might look too broad and

empty, rather than focusing on a specific point to explain. Finally, we also realized our own problems. By reflecting on the entire group work, I gained valuable experience in collaboration for better research in the future.
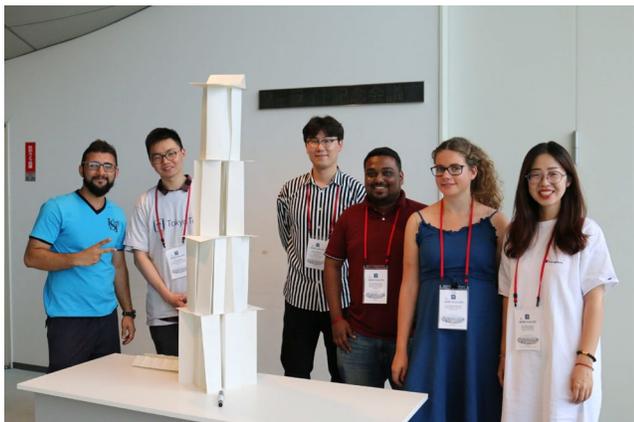
For a particular example, in the ice-breaking game, in which each group was required to use some paper to build the tallest structure, our group successfully completed the first cooperation and won the first place. In the process of the first cooperation, I gradually became familiar with the personality of each member and how to communicate with them. This helped a lot in the following group work for the final presentation.

The similarly impress activities are the several meals. Whether in campus or outside campus, we students were provided with satisfying meals. In particular, I was impressed with the dinner at Odaiba, which was the first time I have been there to have dinner after I came to Japan for a year, because usually I am busy with studies and research, almost having no chance to hang out there. Those meals provided great opportunities for we students to communicate with others to make new friends.

After the final presentation was finished, as a member of the host, I guided some students to the famous Sensoji Temple, which was also the first time for myself. Then we took a shopping trip and tasted some special desserts in Tokyo.

An episode in which you noticed personal growth since you completed the program

Through the group work of this event, I gained valuable experience in communication. In the past, when I was talking to others, I might sometimes be aggressive because I thought some knowledge should be known to everyone. However, in this program, because all members come from completely different backgrounds, some knowledge common for me can seem strange for others, for which I need to explain patiently in detail. This is a very valuable experience for me. After this program, I found that when I communicate with others, I became more gentle and patient, and I can patiently explain things that others didn't understand. I think this is the biggest help of this program.

Cost of program

My expenses in this event were rather rare. First, during the program we students were arranged at the hotel next to Osaki Station, which was paid entirely by Tokyo Tech. Second, the train fee generated by commuting between the school and the hotel was also provided. Moreover, almost all meals were paid by the school, no matter in campus or outside campus. The only intensive cost was the dinners or tours organized by ourselves. In my own case, I spent no more than 10,000 yen through the program.

Your living arrangements during the program

I was very satisfied with the living arrangements provided by our Tokyo Tech. We student stayed in New Otani Inn next to Osaki Station, and every two students took one standard double room. Generally speaking, the hotel rooms in Japan are relatively small. However, to be honest, the double rooms of this hotel are more spacious than any hotel I have experienced in Japan. Further, the breakfast was considerably satisfactory, which was praised by many students. Besides, this hotel stays next to the Yamanote Line, which provides great convenience for hanging out. In conclusion, the living arrangements can be regarded as perfect.

Language study during the program

The language through the program is English. Although I thought there should be no problem in communication before attending, I did encounter some difficulties during the program. Some people have a strange accent in English, or some people speak too fast, causing some difficulties in

the process of communication. This made me realize that being able to understand everyone's English is important, because to communicate with colleagues around the world in future research is fundamental.

How you want to utilize the experience(s) from now on

Through this program, I learned some important considerations in the process of communicating with others. In my future research, I will try to do a better communication with others, being more modest, patient, and mild. I believe this will help me build relationships with others better. Furthermore, this international program has also broadened my horizons. Thus, in the future life, I will set my goals for a longer term, instead of limiting myself to my own cognitive range.

Any trouble or issues you faced and how you solved the problem

In fact, I met some troubles when doing with the presentation slides. Some of the group members use the Microsoft PowerPoint but some other use Google Slide. We had some controversy about this, because we had to combine all the parts responsible by each one together. Different platforms might bring some difficulties. To solve this problem, some members made a compromise and eventually completed the slides on Google Slide.

What did you feel about advantage and disadvantage to participate in the program hosted at Tokyo Tech?

There is no doubt that there are advantage and disadvantage to participate in this kind of program in Tokyo Tech as a Tokyo Tech student. The disadvantage is obvious because we have no chance to experience other univer-

sities and countries. However, it is also beneficial. In this program we played the role of the host, so we have more chance to communicate with others. Further, it can improve the ability to provide information or help to others.

Any recommendation for students who wish to participate ASPIRE Student Workshop 2020 @ Tokyo Tech

I recommend that you should practice your English and make it at least passable because it will help you communicate better with your group member or other students. The most important is, to be passionate, patient, and confident. You will meet students from all over the world, each with their own characteristics. Go and communicate with them boldly, and you will find the broadness of this world, and will also make some friends, leaving some unforgettable experiences in your life.

ASPIRE League Student Workshop 2019 Report
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1. Overview

The ASPIRE League Student Workshop is an annual student workshop held by a consortium of five research university across Asia: Tokyo Tech, HKUST, NTU, Tsinghua University, and KAIST. In the 10th year of the workshop, the venue has circled back to where it was first held, Tokyo Tech. It was held on July 8-12, 2019.

   ASPIRE League Student Workshop has for years focused heavily in using research and engineering to support the creation of a sustainable and environmentally friendly society. As a culmination of 10 years dealing with these topics, this year's theme is *Better Living*, focusing on how we can utilize technology to help enable people to live better.

   The student participants consisted of 24 students from ASPIRE League universities and 6 students from IDEA League universities. The 30 students are divided into 5 different groups, two groups were assigned to design a *universal washroom* that promotes better living, two groups were assigned to propose robotic technology which can support better living, and one group was tasked to come up with a business model related to microbiome study. I was assigned to one of the two groups tasked with universal washroom design.

Students from Tokyo Tech: Dong, Li, Me, Okawa, and Tree (left to right)

2. Preparations

I was certainly expecting that I would have to prepare more as one of the students representing this year's host, but apparently not since the committee in charge of the event has already planned out everything in detail. We were only requested to assist in guiding our fellow group members around the campus.

   One important preparation that I have to make before the event was to look up more about the topic that was assigned to my group. As a student majoring in computing science,

anything related to washroom design is without question quite remote from my own research topic and so I had to do some reading on definitions and elements necessary in a universal washroom.

3. Event

My group's tower during icebreaking game

The workshop starts with orientation, a small icebreaking game, and a short tour on the first day and didn't officially begin until the second day. The second day mainly consisted of lectures directly related to three topics to be discussed. The third day was site visits. The fourth day was the ASPIRE Symposium with various lectures from professors belonging to each member university. The students' presentations were held on the last day together with the closing ceremony.

- **Lectures**

1) Microbiome Shift for Colorectal Cancer Progression (Prof. Takuji Yamada)
Prof. Yamada's research focuses on observing gut microbiome to determine a patient's risk of colorectal cancer. The research has shown that an increased presence of a certain type of microbiome (e.g. *Fusobacterium*) in the gut may indicate the presence of cancer. It is expected that although cancer is a genetic disease, microbiome can be used to observe cancer progression and may have clinical application.
    Prof. Yamada himself is part of a startup which is intending to commercialize a tool to check fecal matter, just like the DNA analysis done right now by some companies.

2) Towards "Unconsciously Designed" Products for Better Living (Prof. Koichi Yasuda)
The second lecture of the day by Prof. Yasuda touched on various issues related to design. He opened the lecture with the Good Design principles then showed and explained several examples of washroom designs. Prof. Yasuda introduced his joint work with TOTO in creating a future toilet design. In their work, the most important elements were unity and

harmony. Another aspect that he put an emphasis was 'unconsciously designed'. The idea is that a good design is something that people aren't even aware was intricately designed for the users.

3) Robotics for Better Life in 2040 – State of the Art of Assistive Robotics and Related Technology (Prof. Yukio Takeda)

Prof. Takeda talked about the possibility of robots in the coming future. He contrasted the current multi-functional robots which can be seen in many factories to the very early robots decades ago which only do very simple actions through mechanical means. With the developing AI and better materials available, robots may be used for an even greater variety of work in the future. One of the most interesting robot Prof. Takeda introduced was the wearable robots which can help people with the simplest work such as standing.

- **Site Visits**

On the third day we visited three locations which was concluded with a very nice dinner with a view of the Rainbow Bridge at Odaiba.

1) Visit to NHK Science & Technology Research Laboratories

The research done here was mostly to further improve what can be broadcasted to the viewers, specifically they showed their research on better 3D broadcast which does not require 3D glasses. The most memorable part of the visit would be the anechoic chamber that they have installed in the building

2) Visit to Panasonic Center Tokyo

Here we were shown Panasonic's prototype of a smart home called Wonder Life-BOX, with every aspect of the house integrated in a single system. The home was equipped with a personal assistant that comes on the owner's behest. The owner can execute various tasks around the house, from cooking to turning on TV through simple voice command to the assistant. The prototype was certainly reminiscent of houses depicted in many popular media.

3) Visit to National Institute of Advanced Industrial Science and Technology

The final site visit was to AIST. There are wide ranging human-centric researches held here such as research on the use of human prosthetics and safety research for children and the elderly. I have never heard of this institute prior to this, but it was certainly a pleasant experience to see the different kinds of research here.

- **Symposium**

The symposium was attended not only by workshop participants, but also representative from each member university. The topics were wider than the lectures on the second day. The speaker from Tokyo Tech, Prof. Koike talked about his research on brain machine interface. Prof. Kim from KAIST gave a very interesting presentation about structural colors. It was personally the first time for me to hear about this topic. He was followed by Prof. Liu from HKUST whose presentation was about autonomous driving for logistics. Prof. Liu has an impressive endless list of achievements in his autonomous driving research. The last speaker of the day was Prof. Ueno with research about sustainable protein cage design.

Group photo with everyone after site visits.

- **Students Presentation**

After working for about four days, each group presented their proposal. With such limited amount of time, all the other groups managed to come with such incredible presentations. As determined on the third day, my group got the final turn for presentation. It was definitely nerve wrecking to give a presentation right after another group introduced an incredible idea on the similar topic right before our turn.

My group: Amrit, Li Meng, Wei-wei, Ha Kyeong, Me, and Pei Yu (lefto to right)

Instead of the usual way, our presentation was delivered in the style of a talk, which I'm still not sure whether it was properly conveyed or not. We received several questions on the details about the urban toilet network and the toilet seat which were promptly answered by my group members.

At the conclusion of the event, even though our presentation did not win the best presentation, I am very proud to have one of my groupmates, Pei Yu won one of the best presenter's award.

The event was closed with a closing remarks and the student participants went on their city trip for the rest of the day.

4. Group Work and Proposal

We were given quite sufficient amount of time to work on our topic. The schedule already allotted enough time for group work on the afternoon of the first and second day, and also a longer time for group work on the afternoon of the fourth day before the presentation.

After getting to know a little bit about each other, my group started brainstorming on the first day on how we were going to dig into the topic. It was also an incredible experience for me to have my group entrusted me to lead the group work. Out first day brainstorm resulted with a large number of separate ideas about the topic. However, since by that time we haven't completely understood what was expected from us, we decided to not go into details right away.

On the next day, after listening to Prof. Yasuda's lecture and after a long discussion, we gradually turned our idea into something more concrete. Our design of universal washroom was to incorporate three different viewpoints: city level, building level, and washroom level.

Our city level proposal is creating an urban toilet network. In this age of Internet of Things and the soon coming 5G connection, connecting every aspect of a toilet into one cohesive system is not impossible. Our idea was to create a platform that gathers and processes information from various sensors place within the toilet. From the standpoint of users, the information which may include availability of universal toilets, number of available stalls, and even air condition within the toilet will certainly increase accessibility of toilet to more people. From the standpoint of maintenance, a complete information of toilet may increase efficiency of toilet maintenance, decreasing cost while increasing level of hygiene and comfort. The main challenge to this idea is the maintenance of the sensors and also the high cost of installation.

Our building level proposal is creating a wall allowing installation of pluggable toilets. Normally toilets are placed in a fixed position because the piping within the walls are in a fixed position. We suggested engineering a wall with many pipe plugs, allowing easier installation and modification of toilets. Certainly, the challenge to this idea is engineering such kind of wall is not an easy work.

Lastly, we proposed several modifications on the current universal toilet. To increase the level of hygiene while at the same time reducing the needs of worker to manually clean the toilet, we suggested installing a self-cleaning seat on toilets. Furthermore, to increase the level of comfort, we also suggested an adjustable size of seating, as people who use toilets come in various sizes.

One thing our group realized after finishing the presentation was that instead of talking about three different ideas, it would have been better to focus on a specific idea.

5. Personal Impressions

This event is my first experience participating in an international student workshop ever since I turned into a university student. It has been a great opportunity to meet students from other countries, students whom I wouldn't be able to make contact with if not for this event. It was a learning experience to hear about many kinds of research that are not done within Tokyo Tech. But of course, I also learned a lot about the study and research culture in each country. I am also incredibly grateful to have very supportive and helpful teammates who are actively participating and trying to help and come up with ideas for our topic.

The schedule which was not too packed also allowed us to spend some extra time to just hang out. I remember how on the second day how most of us went out together and just talked about all sorts of stuff. Additionally, on the final day, I got the chance to guide some of my teammates around Tokyo and showed them a few parts of the city.

The event itself has helped widen my perspective on the topic. As a computing science student doing theoretical research of programming language, spending a week talking about toilets with foreign people I have just met is something unimaginable. But not just the topic of our group, the whole workshop gave me new perspectives on the possibility of research in the coming future and more importantly what is demanded from research: sustainability and human centrism.

6. Suggestions

In general, the event was very well-planned, it was not very packed, and the participants seemed to not be exhausted by the daily schedule. A small point that I would like to address is during site visit. Many of the participants have great interest on whatever was explained during the visit, but unfortunately there was still a language barrier and some of the questions were eventually misinterpreted and were not answered properly. If possible, it would certainly be helpful to have someone help interpreting the questions delivered by the participants.