

ASCENT2010

Asian Student Collaboration Encouragement Program in Technology 2010



Tokyo Institute of Technology

Chulalongkorn University



- Final Report -



ACKNOWLEDGEMENT

All the ASCENT 2010 (Asian Students Collaboration Encouragement Program in Technology 2010) members would like to thank the **Good Student Support Practice of Tokyo Tech** for the precious opportunity to experience some activities and discuss with Japanese and Thai students.

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Also sincerest appreciation to all the cooperating organizations and companies, namely (in order of visits, lectures, cooperation)

Ajinomoto Co., Ltd., Kawasaki Plant,

Japan – Thailand Economic Cooperation Society (JTECS)

Nissan Motor Co.,Ltd. , Oppama Plant,

Tokyo Institute of Technology Global Scientific Information and Computing Center

Nakamoto Laboratory, Tokyo Institute of Technology

Hirose • Fukushima Laboratory, Tokyo Institute of Technology

Okutomi • Tanaka Laboratory, Tokyo Institute of Technology

Matsunaga Laboratory, Tokyo Institute of Technology

Tokyo Institute of Technology Integrated Research Institute

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List of Abbreviations

CU	Chulalongkorn University
JAYSES	Japan – Asia Young Scientist and Engineer Study Visit
JTECS	Japan-Thailand Economic Cooperation Society
TIT	Tokyo Institute of Technology

1. Program Information

a) Outline and Objective

In April 2009, SAGE (Student Association for Global Exchange) was established with the aim of providing Tokyo Tech students with more opportunities of international exchange activity. SAGE was started by students who participated in JAYSES (Japan-Asia Young Scientist and Engineer Study Visit), which is organized by Tokyo Tech International office. Activities of SAGE are presently approved as part of Tokyo Tech Good Student Support Practice. As part of various activities of SAGE, ASCENT (Asian Students Collaboration Encouragement Program in Technology) was organized under the following three objectives:

- 1) Establish a further network among students in various Asian countries
 - The graduates from top ranking universities will play important roles in academic, industrial and government organizations. Therefore, human networks among students of Tokyo Tech and Asian universities would be benefit not only for the students but also for the universities or even for the countries in the future.
- 2) Improve students' ability for international collaboration
 - As the world is rapidly globalized, the collaboration with people from different nationalities who have different cultures, languages and viewpoints is essential for students to take leaderships in their own field in the future.
- 3) Learn development and practical application of technology
 - Understanding actual cases of development and practical application of technology in specific situations would contribute to provide the students with high motivation or new perspective on their studies in school.

In order to achieve the objectives mentioned above, ASCENT is expected to be continued for several years. Furthermore, ASCENT is basically supposed to invite Asian students to Japan, considering that there are only a few opportunities for students in Asian countries to visit Tokyo Tech while there are various exchange programs which dispatch Tokyo Tech students to Asian countries so far. The Two-way exchanges of students between each university will significantly accelerate establishment of closer relationships not only between students but also between universities. In March 2010, the 1st ASCENT as the 130th anniversary project of Tokyo Institute of Technology invited students of Chulalongkorn university, Thailand to Japan.

b)Participating Universities :

Japan	Tokyo Institute of Technology
Thailand	Chulalongkorn University Faculty of Engineering, faculty of Science

c)Merits for the participants :

- 1) Can establish human networks among students in Japan and Thailand who are likely to play important roles in academic, industrial and government organizations in the future.
- 2) Can be motivated to join further international activities such as collaborating research with foreign universities, international conferences, studying abroad programs and more interactions with foreign students.
- 3) Can be provided high motivation or new perspective on their studies in school by understanding actual cases of development and practical application of technology in specific situations.

d)Expectations :

- 1) Enhance international influence of Tokyo Institute of Technology by developing connections between Tokyo Tech students and foreign students.
- 2) Promote applications for Tokyo Tech's international programs such as studying overseas programs and exchange programs by synergetic effect with ASCENT. Strengthen existing relationship with foreign partner university which have been formed by past exchange activities.
- 3) Increase international students to Toyo Tech from Thai top ranking university who are affected by the experience in Japan and have got obvious purposes.

2. Proceedings

Overall schedule (2009) is as follows;

January~February	Announcement in campus
February	Interview / screening of participants
February	Internal meeting
March 10 th ~17 th	Program is held
March	Publish of Final report

a) Participation process

1) Announcement for Tokyo Tech students

Call for application started in January 2010 by website, poster, flyer and mailing lists.

2) Application

Applicants should have submit their application with an essay titled “What is your purpose of joining this program?” within 400 words in English by 20th February 2010. Number of application was 4.

Statistic of application (by grade, school and sex)

Year of study	Grade	Female	Male	Total
Undergraduate	B1			
	B2		1	1
	B3		2	2
	B4		1	1
Subtotal for UG		4		
Graduate	M1			
	M2			
	D2			
Subtotal for G				
Total			4	

3) Interview

SAGE held interview with applicants in February. The applicants were divided into 2 groups of 2 persons and they were asked to appeal themselves and to have discussion in 20 minutes and to make presentation of the resolution. They selected 6 topics which was given by us.

1. How should Japan survive in Asia in the future?
2. How should we prevent new influenza from going around?
3. What should Asian countries should discuss about the prepararion for big earth quake? What is cooperative framework which we can think when the earthquake occur?
4. How should Japanese manufacturing be?
5. How should we recognize each culture and overcome cultural difference?
6. What should next Kyoto Protcol be add to?

4) Screening result

All applications were screened by criteria of English ability, leadership, cooperative attitude, logic and calmness based on the submitted essay and marking by SAGE staff during discussion.

But, the number of applicants was lower than of available participants, all applicants could join.

The list of Tokyo Tech participants is attached in annex.

5) Participants from Thai universities

Participants from Thai universities were selected or nominated by each participating Thai university. The list of participants from Thai universities is attached as annex.

3. Schedule of ASCENT 2009

Schedule of Try -out

Date	Time	Venue	No. of applicants
Feb 22th, Mon.	5.00 p.m. - 6.00 p.m.	West Bldg.1st, 2nd Floor, TV Conference Room	2
Feb 24th, Wed.	3.00 p.m. - 4.00 p.m.	West Bldg.1st, 2nd Floor, TV Conference Room	2

Schedule of Activities

Date	Time Start	Time End
		Program
Wed, Mar 10th	16:30.	16:30
		Meeting at Narita International Airport (only Thai student)
Thu, Mar 11th	09:00	11:40
		Preparatory meeting
	14:00	16:00
		Visiting Ajinomoto Kawasaki factory
Fri, Mar 12th	09:00	10:30
		Visiting JTECS
	13:30	15:00
		Visiting Nissan Oppama plant
Sat, Mar 13th	10:00	12:00
		Visiting Tokyo National Museum and National museum of Science and Nature
Sun, Mar 14th		
		Off
Mon, Mar 15th	09:00	09:30
		Visiting TSUBAME in Tokyo Tech
	09:40	10:10

		Visiting Nakamoto Lab and Hirose•Fukushima Lab
	10:20	10:50
		Visiting Okutomi•Tanaka Lab and Matsunaga Lab
	11:00	12:00
		Visiting AES project
	13:00	18:30
		Student Forum and preparation for presentation
Tue, Mar 16 th	10:00	12:00
		Final Presentation
	13:00	15:00
		Farewell party
Wed, Mar 17 th		
		Back to Thailand(only Thai student)

4. Outcome of Technical visiting and activities

Introduction:

We could visit two plants, one organization, two museums and 4 laboratories at Tokyo Tech in this program. It was valuable experience for us, because it is difficult for us to directly watch researching and production site.

In this section, participant's reports about each visiting place are written.

Ajinomoto Co., Ltd., Kawasaki Plant

Data & Time: March, 11th, 2010, 14:00 p.m. ~16:30 p.m.

Reporter: Shota Suzuki (Sho)

Program:

Introduction of Kawasaki plant, visiting plants of both Cook Do and Hondashi,

Ajinomoto employees introduce CSR and answer questions.

Contents of visiting and Reporter's comment:

At first ASCENT program's members were guided to a room. we received lesson of Kawasaki factory's introduction. After that we looked around a plant which manufactured Cook Do (product of Ajinomoto). Cook Do products are seasonings of Chinese foods. When we entered this plant, I smelled seasonings like Chinese foods. I found it interesting to close pack by melting a little. This technology seemed difficult. A employee said the machine had to control temperature accurately. I thought plant had many technology. Next we looked around a plant which manufactured Hondashi (product of Ajinomoto). Hondashi is made by bloating and grinding bonito. Three kinds of bonito are used in bonito. I had not known it before I visited Kawasaki plant. I thought employees seemed to pay attention to all processes to make better products. I was surprised at manufacturing products very quickly in both factories of Cook Do and Hondashi. Lastly we got back the room which had been guided at first. We listened to what Ajinomoto does about CSR (Company Social Responsibility) from Ajinomoto's employees and asked them some questions. I understood thoughts of Ajinomoto about CSR.

Q&A: This Q&A is my summary

Q1: What is the reason that Ajinomoto provides people who don't have enough foods with them for free.

A1: To solve poverty problem and Ajinomoto hope that they will be good customers in the future, it's a long investment.

Q2: What is example of CSR in environmental fields?

A2: In the Thai plant Ajinomoto changed fuels into rice's integuments to decrease CO₂ emissions and costs.

Reporter: Kamolchanok Showpitakvatana (Pang)

Program:

Greeting by Cook Do Plant Manager, Brief Schedule Presentation by Ajinomoto, Plant Tour, Ajinomoto CSR Presentation, Q&A Session with Plant Manager, Director of Environment, CSR Department and other relevant personnel

Contents of visiting and Reporter's comment:

First of all, we were welcome warmly by factory administrator and plant managers. Mr. Wada, Cook Do Plant Manager, introduced us the schedule of visiting and also has taken us to Ajinomoto plant tour: Cook Do, Hondashi, and Ajinomoto exhibition.

We first visited to Cook Do Plant. Cook Do is very popular in Japan and also is exported to China. We have watched a short video presentation of Cook Do processes starting from raw materials to finished product. Every single step is significantly concerned for freshness hygiene and quality control. We also had a chance to observe some real production lines of Cook Do during its very last processes (containing and packaging). Even though we were not exactly in the production room, just standing on the observation area, we could smell Cook Do quite strong.

After that we were guided to Hondashi Plant. Hondashi is made from one kind of fish called "botani". We have been introduced the story of botani and its products in many interesting ways, for example, there was a visual presentation of how fast it can swim, the real pieces of fish are provided for smelling real botani with different tastes: plain, smoked, strong smoked, and also video presentation. We have walked along the observation areas to observe some of Hondashi production lines. The interesting point is that this

kind of plant production line is begun from the top most floors and connected sending product to the lower floors. In Hondashi Plant, we received a great pleasure to taste miso soup seasoning by Hondashi, and the taste was quite good like “umami”.

We then moved to the exhibition of Ajinomoto. There are lots of information provided about Ajinomoto since it was found and established, and also its product examples and other nutrient information.

Next is Ajinomoto CSR presentation and Q&A session. Ajinomoto’s CSR is mostly concerned on the aspect of food, for example, the nutrition program in Ghana.

Q&A:

Q1: Do CSR strategies is generated by CSR department itself or marketing department?

A1: CSR strategies in Ajinomoto are generated by CSR department although there is a factor of money within decision making.

Q2: What will the company get from CSR?

A2: According to Director of Environment’s opinion, CSR is a long term investment. Company will gain profits in the future by customer brand loyalty.

Japan-Thailand Economic Cooperation Society (JTECS)

Date & Time: March 12th, 2010, 9:00 a.m. ~ 11:00 a.m.

Reporter: Hiroki Kobayashi (Taller)

Program:

Greetings and introduction about JTECS and the relationship between Thailand and Japan from Advisor Masafumi Sato

Contents of visiting and Reporter’s comment:

Until a few days before our visiting the JTECS, I didn’t know about it at all and never had I heard the word “JTECS”. So I used the inter-net to figure out what it is, but the activity was so vague to me that I was kind of confused. After my visiting there, I realized that that was because I didn’t know about the history at all; like the big anti-Japan movement in Thailand in the 70s.

Mr. Sato who is the advisor of JTECS now, explained us the importance and the reality of such activity. Since he did experience so many things from the front, his explanation was really deep. I enjoyed it so much.

Reporter: Raviphol Sukhajoti (Earth)

Program:

Greetings by President of JTECS, Introduce JTECS, Information about JTECS foundation, Information about cooperation program, Introduce TPA and TNI, Q&A session.

Contents of visiting and Reporter's comment:

- Introduction outline of related organizations
 - JTECS, TPA, TNI and etc.
- Background of starting JTECS & TPA
 - JTECS and TPA foundation
 - Thai government thought that JTECS staffs were military spies.
- Development of TPA
 - From small robot competition to the large one, which can continues by itself. The winner of this competition can join the final round in Japan.
- Success Factors and Future Expectations
 - Many programs from JTECS can continue by themselves.
 - More people participate in these programs.
- Japan-Thailand Regional Cooperation
 - Japan and Thailand share our knowledge and technology in many ways, for example, TNI program.
- Official Development Assistance
 - JTECS helps Thailand builds TNI building to ensure the policy of JTECS to Thai government.
- Overview of east Asian countries
 - JTECS also have many activities with other Asian country.

Q&A:

Q1: How can you manage TPA program to make it continues by itself?
Where's this money come from.

A1: At first, only a few universities joined this program. But after a few years, Thai students got more knowledge about robot, and had fun with it. So they joined the competition. The TPA robot became famous, and then some sponsors were attached to it.

Q2: Had you got some help from Thai government in much cooperation when JTECS was found? For example, JTECS staffs get to Thailand easier.

A2: No. Thai government hadn't made much react to our activities. But it was better recently.

Nissan Motor Co.,Ltd. , Oppama Plant

Date & Time: March 12th, 2010, 1:30 p.m. ~ 3:00 p.m.

Reporter: Masayuki Murata (Masao)

Program:

Brief introduction to the Oppama Plant, Watching Video of manufacturing process, Visiting the facilities, Q&A session

Contents of visiting and Reporter's comment:

The Oppama Plant started operations in 1961, and now is one of Nissan's three major vehicle manufacturing plant in Japan.

In the Oppama Plant, first, we received an explanation of the Oppama Plant and watched a video of the manufacturing process at the guest hall.

Next we went to the Plant No.2, where four car models are in production, and observed the welding process, floor line, body side line, and other facilities. At the body side line, I felt impressed to see a strong behavior of a two-meter assembly robot. In addition, I felt interested in a small automatic car carrying various automotive parts in the plant, which is called an Automatic Guided Vehicle (AGV).

Finally, we had a Q&A session at the guest hall. Below is a brief summary of

the session.

Q&A Session:

Q1: When was a synchronized production system started?

A1: It started 1980's.

Q2: Why is a one-week rotation and two-shift system used in the plant?

A2: To equalize wages of employees and not to harm their health.

Q3: We'd like to know about the production and popularization of EV.

A3: The Nissan Leaf will be in production at the Plant No.1 in the Oppama Plant in the fall of 2010. One Leaf will be produced every 5 automobiles in the line. The problems of popularization of EV are the range, the cost, and the charging infrastructure of EV.

Reporter: Phattharaphong Kaoian (Ian)

Program:

Introduction to NISSAN Oppama plant, Visiting port for export car to other places, Visiting Factory (production lines), Q&A session

Contents of visiting and Reporter's comment:

For this visiting, we have been presented the way Nissan making their cars and how the production processes are. The production lines are totally different from Thailand's plant which mostly manipulate by human, but in Japan, most tasks are done by robots. This would benefit in the way that it causes fewer mistakes and can work for a long time without being exhausted. However, as Nissan produces cars due to order made by a customer, some parts which have to be put in the car are still done by human with the help of robot in some way, for example, delivering the parts of each car to the workplace. This combination, in my opinion, would lead to the best efficiency of both human and robots which will mean that the high-quality cars will be delivered to the customers. Also, Nissan cooperation also concerned about the environment around the factory and health of the workers.



Q&A:

Q1: Why there are many robots to do one cars instead of one for each?

A1: It's a Nissan way of making cars as it can increase the performance.

Q2: Why in one production line have many type of cars?

A2: Because Nissan produce a car by made to order so there will have more than one model in each line.

Museums and other sightseeings

Date & Time : March 13th-14th, 2010, all day event

Reporter : Mali Promkingkaew (Mali)

Saran Lertpradit (Nat)

Program :

March13th, 2010 : met up at Ueno Station, separated into two groups of visiting (Tokyo National Museum and National Museum of Nature and Science), Ameyayokocho Market

March14th, 2010 : Odaiba, Asakusa, Harajuku, and Shibuya

Contents of visiting and Reporter's comments :

At the National Museum of Nature and Science, There are two buildings of exhibitions, Japanese related stuffs, and the Nature and Science. It was a great experience. At the first building, I got to know where Japanese people came from, what their ancestor looked like, what animals are found on each island, etc. Furthermore, for the second building, we did not go to all floors because of the time but the content on each floor is fantastic. My

favorite one is the blackground of the museum (the basement floor) because it displays all basic concept about science very well.

In the afternoon, we went to Ameyayokocho market, it was crowded. I really like it because it was so moving and there is everything u need there. For lunch we needed to separate into two groups because there were not any places that could hold us all together. For my group, we went to a rotatign sushi bar. It was very delicious. We have this kind of restaurant in Thailand as well, but the taste and the atmoshere here was so original.

On Sunday, Pang, taka, kazu, and I were heading to Odaiba. It was sucha beautiful scenery. We went to Fuji TV station and then we went for a walk along the coast, with ice cream in our hands. We had Okonomiyaki for lunch. This was also a amzing experience as well. They cooked it fresh in front of us and we ate it from the hot plate there. Okonomiyaki bacames one of my favorite food from then.

After finished our lunch we went to Asakusa. Unfortunately, the temple was underconstruction, so we did not have a chance to go inside. I got the best fortune here. Then, we went to Harajuku and Shibuya for shopping. Pang and I were enjoying this so much. We got a lot of thing from here.

Laboratories Tour at the Tokyo Tech (Course A)

Date & Time: March 15th, 2010, 9:00am ~ 12:00 a.m.

Reporter: Sittichok Thanomkulrat(Mac)

Program:

First of all, we have been instructed about TSUBAME, which it is a super computer, by Professor at Department of computer science. After that, we have gone to TSUBAME main rooms. The temperature inside that room is quite warm. In addition to temperature, there are lots of racks of computer which are interesting. After the touring at TSUBAME main rooms, we have to separate into 2 groups and I have accompanied by Pang and Earth. Our groups have decided to go to nose sensor laboratory and Image processing laboratory. At nose sensor lab, they are studying about how to make olfactory which is to make various scents from fundamental scents. For example, they have made an orange scents by combined some scents at fixed ratio. At Image processing lab, they are studying about how to use computer

to process image in various forms. For instance, they can insert words into the space by using only camera (for inputting of the image), computer and projector (for showing the output). This is a brief of all I have seen in Laboratory.

Q & A:

Q1: What is Super Computer?

A1: Super Computer is a large computer which it is made from many computers.

Its job is to do many large calculations especially scientific matters.

Q2: If it's possible to make any kinds of scents?

A2: Yes, but you have to find out what the main scents first.

Laboratories Tour at the Tokyo Tech (Course B)

Date & Time: March 15th 2010, 9:00-12:00

Author: Yuta Aoki (Yuta)

Program:

- TSUBAME
Introduction of TSUBAME by Mr. Sanemoto, Visiting of TSUBAME facilities.
- Department of Mechano-aerospace engineering
Visiting of Hirose & Fukushima Laboratory, Visiting of Matsunaga Laboratory
- Integrated Research Institute AES Project
Briefing of the research and products

Contents of Visiting & Reporter's Comments

In visiting tour of TSUBAME, we watched the introduction video and then visited the facilities of TSUBAME. There were many units such as CPU and GPU, and many strong coolers to cool the heat generated by the computers.

At the Department of Mechano-aerospace engineering, we visited Hirose & Fukushima Laboratory and Matsunaga Laboratory. In Hirose & Fukushima Laboratory we observed the robot demonstration. In Matsunaga Laboratory,

we had the explanation of their satellite projects of the laboratory. The explainer of the laboratory was a Japanese graduate student, who was very fluent in English because he has experienced one year of overseas internship through the IAESTE program.

At the Integrated Research Institute we observed their research facilities and products of the AES: Advanced Energy System for Sustainability project such as solar cells, fuel cells, smart power network, and iMiEV, the electric vehicle developed by the cooperation between Mitsubishi Motors and the Tokyo Tech. We had a trial ride on iMiEV and I felt that the electric motor was as powerful as or more powerful than the gasoline engine



5. Outcome of Student Forum discussion

Introduction

We discussed theme related with visiting place in this program. This year's one are

1. How should company meet its cooperate social responsibilities in environmental field?
2. Making an Electric Vehicle worldwide

In this section, the reports abstracted the result of discussion presented on the final day are written.

Group A

Theme: How should company meet its cooperate social responsibilities in environmental field?

Reporter: Takahiro Yamaguchi (Taka)

Members: Takahiro Yamaguchi, Shota Suzuki, Hiroki Kobayashi, Kamolchanok Showpitakvatana, Mali Promkingkaew, Sittichok Thanomkulrat

1. What is the CSR??

CSR is short form of "Corporate Social Responsibility". Recently, organizations/companies need to pursue not only the profit but also their impact towards society. In this point of view, CSR is often discussed as a way of definition of these kinds of issues. However, activities of companies are totally different where their business field is. Actually, the definition and concept of CSR is still not fixed. Each company defines their own goal or definition to achieve their CSR activities. In this student forum, we cited the definition of CSR from Mallen Baker's CSR homepage ^[1]. His own definition is that CSR is about how companies manage the business processes to produce an overall positive impact on society. As he mentions in his definition, we need to consider CSR for sustainable development.

2. Importance of CSR.

As for the importance of CSR, we pointed following three topics.

- i. Responsibility to the society... First of all, every activity of company makes impacts towards society. Even if it's a little, they have to consider the effects of them.
- ii. Good image of company... Nowadays, making good image of company is a kind of key issue for each company. If they could make a good image at once, it contributes to their activity so much.
- iii. Make the company famous / Not get criticized by the society... It is two sides of the same coin. If company could carry out their CSR activities, they can spread their names for the society.

3. Advantage and Disadvantage

We discussed the advantage and disadvantage of CSR from the relation of company and society. Regarding to advantage of CSR, we pointed out four topics.

- i. Brand loyalty... Companies can raise their brand loyalty. It can be used as a tool of marketing. They can broaden their good image to consumers.
- ii. Long-term return of investment... CSR activities require investments. It is not so easy to start. However, once it started and accomplished their goal, it makes some return for company itself.
- iii. Positive motivation to the workers... CSR activities are mostly good conduct for the society. It influences positive effects to the workers.
- iv. Win-Win Relationship... If the CSR activities accomplished in the society, it makes some advantage towards company, too. It is good win-win relationship between society and company. It has to be encouraged for sustainable development.

Regarding to disadvantage, we pointed out one topic.

- v. Budget is required... It is the biggest issue for each company. As you can see from the current global economic situation, not so many companies have a budget for CSR activities.

3. Conclusion

Throughout our discussion, we found out the broad definition and activities of CSR. We could learn Ajinomoto's and Nissan's CSR activities

from our visiting. These two company's CSR is also different each other. As a summary for report of CSR group, we would like to introduce the words by Makoto IIDA, founder of SECOM, a Japanese security agency. "The company profits depend on how much you contributed to the society. With your level of contribution to the society will give your profit." As we can learn from the words, we need to consider the sustainable relationship between society and company no matter what kind of field we work for.

[Acknowledgement]

We would like to thank you for all the people who concerned with ASCENT2010. We reconfirmed that we need to consider not technology but sustainable activity at the same time.

[References]

- [1] mallenbaker.net [<http://www.mallenbaker.net/csr/index.php>]

Group B

Theme: Making an Electric Vehicle worldwide

Reporter: Yayoi Iwahashi (Yayoi)

Members: Masayuki Murata, Phattharaphong Kaoian, Raviphol Sukhajoti, Saran Lertpradit, Yayoi Iwahashi, Yuta Aoki

MAKING AN ELECTRIC VEHICLE WORLDWIDE

Outline

- Introduction
- Advantages & Disadvantages
- Suggestion
- Conclusion

Introduction

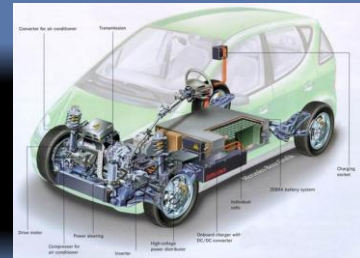
- As the environmental problem from engine car is more concerned, the topic of hybrid or electric vehicle (EV) is raised.



Emission gas of engine cars leads global warming. Many car companies have started to produce electric vehicle because of the recent trend of environmental conservation.

Introduction

- The EV has some different design to the engine car.



EV has a motor instead of engine. It uses electric power while an engine car uses heat energy.

Introduction

	Chevy Volt	Mitsubishi iMiEV
Top speed (km/h):	160	130
EV range, city (km):	64 (based on EPA city cycle)	160 (Japan 10 – 15 mode)
Battery type:	lithium-ion (16 kWh)	lithium-ion (16 kWh)
Power (kW):	111	47
Torque (Nm):	370	180



Advantages & Disadvantages

Advantages

- Zero-emission
- No fuel
- High Energy Efficiency
- Motor produces less heat than engine
- Noiseless
- Motor is much quiet
- Strong Acceleration

Disadvantages

- High Cost
- Battery (60% of the total cost)
- R&D
- Short Range
- 160km (Mitsubishi iMiEV)
- 670km (Toyota iQ, gasoline)
- 1400km (Toyota Prius, hybrid)
- Long charging time
- 7 h. (householding charger 200V)
- 14 h. (householding charger 100V)
- 30 min. (quick charger)
- No infrastructure
- Few charging stations

This is the feature of a hybrid EV which is produced by GM : Chevy Volt, and an EV produced by Mitsubishi-Moter : iMiEV

EV has these advantages and disadvantages.

Suggestion

- Faster Battery Charging
- Infrastructure Investment
- Marketing Encouragement
 - Trade old engine car with the new EV

Conclusion

- EV has lots of potential for clean and sustainable energy.
- Stills, EV has some problems with the cost, battery, and the infrastructure.
- In the near future, these problem will be solved by new technologies and lead to more widely used of EV.

To make EV more popular, these are issues to be overcome.

Faster Battery Charging

Nissan suggests that they exchange an empty battery with an full-charged battery instead of charging it.

Infrastructure Investment

Unisys Japan is improving the navigator system of electric stations.

Marketing Encouragement

Government support

6. Participants' Essays

Introduction

We get each participant select one topic from 3 topics and write essay after ASCENT, because we would like ask them whether they were satisfied with ASCENT. 3 topics are

1. Create a connection among Asian students
2. Strengthen an international communication skill
3. Learn research and development of technology all over the Asia

In this section, the essays is written.

My Thai vacation

Author: Hiroki Kobayashi (Taller)

Selected topic: 1.Create a connection among Asian students

It was such a coincidence that I joined this program. This spring vacation, I was planning to travel to Thailand just to have fun myself. Couple of weeks before leaving, I happened to see the pamphlet of this program. Never had I joined this kind of program in Ti-tech before. However, I found it such a good chance to get to know well about Thailand and improve my communication skill. So I had a lot to do with Thailand this spring vacation!!

It was my first time to talk with similar age students from a foreign country since I was in high school in New Zealand for a year. At that time I was just a kid. However, I have grown up and need to act as an adult now. I was therefore kind of worried if the way we talk or communicate with each other would have to be changed from how I did when I was in high school. But I realized that I didn't need to worry at all, a few hours after our first meeting.

You want to know if I found any difference between us and the students from Thailand? The answer is no. I mean of course we were different (nobody is totally the same as you know) but at least we were similar so all I had to do was just to be myself when I talk with them. It was really enjoyable. So the week I stayed with them passed so fast.

I did not just enjoy the program but I learned so many things from this program especially when we visited Ajinomoto. What I thought really interesting was what the worker said about CSR

“CSR activity is not a volunteer but it must be embedded to business”

From my point of view before I listened to that, CSR sounded like just a company's paying back their profit to the society since they got enough money from society. However, it was not like that. If it was like that, the CSR activity would never continue. I felt that if you are just studying in the university and never see the outside, you will miss an important thing. I mean we just cannot keep saying something which just sounds good all the time but we must see the reality. Company has to take CSR as a long term investment, also.

We have met each other. It may be such a small thing. I don't know if it effects our future very much. However, I just can't help thinking that such a small thing can get together and change the world. We ought to have more opportunities like ASCENT this year and know and effect each other.

Finally, I want to say thank you to those who organized this program and gave me such an awesome occasion. I did enjoy it very much. Thank you very much!!

What I learn from ASCENT2010

Author: Masayuki Murata (Masao)

Selected topic: 1. The network construction among Asian students

As a student who for the first time participated in the international exchange program like this, I want to think about the topic, "The network construction among Asian students".

In discussing the topic of Electric Vehicles, I found some things related to international exchange. First, I want to write about them.

When a Thai student was gathering information about Electric Vehicles with his laptop computer, I recognized he set Facebook as the default start page in his browser. We can easily imagine that the students visiting Japan are interested in the international exchange, but it was not until I viewed his default Web page that I realized how common the communication tools like Facebook are in them.

In addition, I realized my English ability is unfortunately worse than other participants. I could have a little communication with them in English, but I was hopeless with having a discussion in English. The other students participating in this program are interested in international exchange and may have relatively-high English ability, but considering the foregoing paragraph about Facebook, I couldn't help but be surprised that there is an environment we can easily construct an international network in front of my eyes.

Based on above things, I anew think about the topic, "The network construction among Asian students". Entrusting general ideas to other participants, I especially want to think about the benefit of a program like ASCENT 2010 for a student like me, who has little thought to the international network construction among Asian students.

The benefit of participating in the program is that they can realize there is an environment we can easily construct an international network, and start to construct it. Based on this, we can understand our lack of ability to communicate with foreign students. And the biggest benefit is we can get these experiences at lower cost.

I hadn't got a chance to participate in a program like this at lower cost, where I can recognize my lack of ability and the current situation of network construction among Asian students. This time the number of participants was small but I'm sure there is a need for this type of program. I think that some people think it difficult to participate in the program when they know it, then it is a key to develop this program to resolve their concerns.

This program was a precious experience for me. After this I must continue to make an effort to improve my ability and construct and maintain international networks. On a final note, I appreciate all participants, all concerned, and a SAGE member who introduced this program to me.

What I learn from ASCENT2010

Author: Shota Suzuki (Sho)

Selected topic: Create a connection among Asian students

Ascent program was very precious experience for me. I had not almost talked with foreign people before I joined this program. When I talked with foreign people, I had been using Japanese. So I didn't know whether I could speak and listening English or not. I was nervous. Actually I could by any means communicate with them. But I couldn't speak English well and there were some cases that I couldn't understand Thai students speaking English. I hardly tried to communicate with them. They also tried to listen to my English well and spoke to me many times when I couldn't understand English. This program motivates me to communicate with foreign people well. I want to fluently speak and listen to English well now. I want to know what they think more. I think it is important to be able to communicate with foreign people. Now globalization is advancing. For example Japan imports rice or etc... There are many factories in Thailand. Today if one country becomes depression, the depression may expand all over the world. Japan can't live alone. Of course other countries can't. Economy become more complex than ever. So the number of chances that communicate with foreign people is growing. For that we need understand each other. Global exchange during students must be good for the future. I thought it was very interesting in communicating with foreign people. When we act together and find something different and same, it is very fun. Even I thought it was natural, Thai students were sometimes surprised at it. Reversely if I go to Thailand, I will be surprised at something which Thai students think is natural. It is very precious experience. It gave me new discoveries. In the spot where we visited in Japan Thai students asked Japanese students questions for example, what is this? Some of questions are never asked by Japanese. So I could understand Japan in other angles. Of course I asked Thai students some questions. I am more interested in Thailand and Thai people than before. In this program we discussed CSR (Corporate Social Responsibility) to have presentation. In this discussion I could not said my opinions accurately. So I mostly listened to my group opinions. That was a big problem for me. This problem made me think that I must improve speaking and listening English. I should tell my opinions in English. During students I really enjoyed this program and learned many things. I think creating a connection among Asian students is useful.

As an organizer and a participant of ASCENT2010

Author: Takahiro Yamaguchi (Taka)

Selected topic: 1. Construct a connection among Asian students.

In ASCENT2010, I joined as an organizer and a participant. Before I joined SAGE, I've joined JAYSES2008 as a participant and worked for JAYSES2009 as committee member. In JAYSES program, Tokyo Tech students visited some factories, and organizations in Asian countries. Throughout these programs, I could see and learn the reality of these countries. However, for foreign country students, we have no program which they can see and learn the reality of Japan. This is our first motivation of ASCENT. As for the scheme of ASCENT, SAGE could make the master plan of ASCENT by our hands. We also could have many suggestions from Prof. Nishihara, and staffs of Tokyo Tech. The most important fact of ASCENT is that it is organized by students' group, although this kind of program is normally organized by school.

Why I wanted to accomplish this program before I graduate? The reason is that I think it would be hard to have chance to learn with students from other countries after graduate. I guess I would be able to work with foreigner in the future, but not be able to learn and work on something that is not related to our business together anymore if I get this chance away. Moreover, another reason for why I thought I should take part in this program is that most students of Tokyo Tech are shy, especially to speak English. Ability of English can never grow unless we use it. That is why I wanted to provide the chance to communicate in English to those who had hard time improving skills and to join the international program.

This time our group, SAGE managed to set up the international program. I believe that this program will be successive when finally it makes students more aggressive to participate other programs with ASCENT as a start. Not just participating, students have to find more and more chances to communicate with foreign people by themselves. This enables to construct the relationship between a country and a country.

What I learn from ASCENT2010

Author: Yayoi Iwahashi

Selected topic: Strengthen an international communication skill

Tokyo Institute of Technology (Tokyo Tech) is one of the best Universities in Science and Technology field. However, not many people abroad know our university. Since our society become more international year by year, it is important to get the fame not only in Japan, but also the outside Japan. By attending ASCENT2010, I realized the following issues which we will have to change in order to get a name around the world.

First, the students' international communication skills are limited. Through the activities of ASCENT2010, I felt my English was not enough. For example, when we had a discussion or making presentation together, many times I could not explain my opinion, so as other students from Tokyo Tech. They are intelligent enough and have knowledge, but they could not show them. Some students came from the other country this time, but when we have a chance to see other countries universities, our English skills will be important, and it is wasteful if we hesitate to take a chance because of the English skills.

Second, professors' or researchers' English skills are limited, too. When we visited labs or research centers, some professors or researchers seemed to be struggling to explain the research in English. It is shame that we cannot completely explain our high-level research to people from outside Japan. We might lose some good international students who would get interested after listening their research topics.

Finally, we have to strengthen English education in our university. In Chulalongkorn university, its majors can be divided into 2: one is normal course, and the other is international course which all classes are held in English. It means the university put large effort into the English education. Another case, in Korea Advanced Institute of Science and Technology (KAIST), which level and research area is similar to Tokyo Tech, most classes are held in English. Compared to this, Tokyo Tech has required English classes only when they are freshman and sophomore. In addition, it does not include speaking or presentation practice which is important when we go a conference or a competition in abroad. This is inadequate even compared to

other universities in Japan. We have to strengthen the English education in order to improve the students' English skills. We cannot survive without having international skills when many other universities are focusing their English educations.

Through the all activities of ASCENT2010, I hope many kinds of people realized to improve their international communication skills. Of course we it is difficult to improve our English skills just during the short program, but the point is we realized how poor our English skills are. If many people try to change the situation, Tokyo Tech will be change, too.

The Construction of the network among the Asian Students

Author: Yuta Aoki (Yuta)

Selected topic: The Construction of the network among the Asian Students

The construction of the network among the Asian Students will open a new potentiality for the Asian future. As Mr. Sato, the advisor for JTECS, presented us, a personal international friendship started in our young days will develop to an important international cooperation between two countries in the future. I hope that our friendship we made during the ASCENT 2010 will be such one.

In the ASCENT 2010 program, there were 6 participants from Thailand, and 8 participants from Japan including 4 staff members. In the 7 days schedule, we visited industrial facilities, went sightseeing, have lunch and dinner together, and discuss business and technological issues. We are not so specialized yet. Still we will grow up to be specialized in each field. The experience of the ASCENT 2010 will play some roles in our future.

Since the beginning of modernization of Japan, it has always pursuing the Western countries. Especially since the end of World War II, it has been strongly depending on the United States. However, as the Cold War has been over and the world economy is becoming more and more global, Japan's excessive dependence on the United State is becoming more and more disadvantageous for Japan. That is why the cooperation between Asian countries is needed nowadays.

The United States is already a developed country. So are the European countries. Also, it is needless to say that so is Japan. Therefore in order that

Japan develops sustainably, it is essential to cooperate with developing countries. Asia is one of the most growing areas in the world. Asia has growing market. Asia has the potential to develop. Asia could be the strongest rival for Japan. Still Asia could be the strongest partner for Japan. Japan has to choose the latter possibility. The mutual dependence, in other word, the win-win relationship, between Asian countries will be a remedy for Japan's survival for the future.

We must construct such a relationship. And such a relationship can be constructed only by the bottom-up process. Asia has the best potential in the world. Asian people are diligent. Asia has the basis of industry. Yet Asia is also one of the most tensed areas for it holds the most dangerous and problematic areas such as North Korea, Iran, Afghanistan, etc. Therefore the top-down process through the political issues may be a difficult way to develop a cooperative relationship between Asian countries.

Still we have many issues to work on in cooperation. If we approach each issue case by case and make grass-root cooperation, we can develop a comprehensive cooperation between Asian countries some day.

What I learn from ASCENT2010

Author: Kamolchanok Showpitakvatana (Pang)

Selected topic: Strengthen an international communication skill

As we are from different countries and living in different environment, having different lifestyles, in order to be together we certainly have to learn new things and adapt ourselves to each particular situation properly. To get such an experience, ASCENT2010 provides me chances.

Participating in ASCENT2010 program lets me achieve my expected goals: gain experiences in Japan, make new friends and connection, improve my Japanese language skills, and importantly plan for my future studying and career. Furthermore, it also strengthens communication skills internationally to me and others as I can express into my own words by many following reasons:

First, I have made new friends and they are all Japanese. Since Japanese people do not use my mother-tongue language – Thai, so I had to use international English as a communication language. For instance, at the

first time I and all participants were met, we used English to introduce ourselves to each other and performed national and cultural presentations via PowerPoint. In my opinion, these are the most common way to get known and present the information.

Second, I have to order food. Because meals are vital factor to survive, we need to be able to order for food. By this reason, we tried our best to learn about Japanese food and its characteristics. Our Japanese friends have explained and given some comparisons to Thai food and western food, and it worked and helped us a lot. Without the communication about this, we might face terrible problems such as for seafood allergenic patients.

Third, in transportation aspect we needed to learn a lot. While we were staying in Japan the only way to transport is by train. As everyone knows there are a big number of lines in Japan and they are very complex for unfamiliar foreigners. Further from guiding us to each train station and transit the line, Japanese friends taught us the ways to go to our interesting destinations and they also drew some maps and explained us step-by-step how to take the train efficiently and effectively.

Moreover, we have taught each other Thai and Japanese languages, for example, saying greeting words, counting numbers and how to represent numbers by using fingers, and using everyday life conversation. We also spent times talking together, sharing experiences, expressing feeling and opinion, and going out for sightseeing. These are all about cultural exchange which related to the basic of communication among people around the world.

From my point of view, all of the fundamental reasons mentioned above they will lead the international communication in each particular person upgraded to higher advance level.

What I learn from ASCENT 2010

Author: Mali Promkingkaew

Selected Topic : Create a connection among Asian studens

ASCENT is Asian Students Collaboration Encouragement Program in Technology, which created upon the purposes of creating a connection among Asian students, strenghtening an international communication skill, and Learning researchand development of technology all over the Asia.

During the period of participating on this program, many activities had been arranged and done. Those activities including factories and laboratories visits, group discussion, both between students and students, and students and factories or laboratories members, and also sightseeing as well.

The activities above created a connection among Asian students. The participants were divided into groups and assigned a final presentation topics at the second day of the program. These topics were related to the policies and the future development of the factories visited. Before visiting, students were gathering into their own group, which in each group consisted of both Thai and Japanese students. Students were discussing and interpreting the meaning of the topic they were given. For example, my group was assigned on "How company meet its cooperation social responsibility (CSR) ?". After getting to know each other in our group, we were trying to define CSR in words, since none of us known about this before. At the end of the program, on the day before last, after been visited many places, we put all the information together and summarized it into our presentation. There were a lot of talking and exchanging opinion during the working process.

From that, not only just the presentation and the knowledge about the topic were achieved, but also the friendship and skills had been created as well. By exchanging opinion and working together as a group, we had a chance to learn about nature of people from different countries, and also strengthening the relationship among Thai students as well. In other words, ASCENT gave me new friends, who fortunately have similar interest, i.e., science and technology.

Moreover, during the program, we were not just only working, we also were doing something fun as well, such as some sightseeings and partying. We were exchanging different cultures and getting to know more about others. For example, Japanese food, Nabe party, which is traditional way of Japanese party, etc. As a matter of fact that most of Japanese people do not speak English, and the lack of English signs in town, so we needed to hang together as a group of Thais and Japanese. This benefits both sides because both sides of the students could practice their English and also learning each other native languages as well.

To sum up, ASCENT 2010 gave me friends and the knowledge of different way of living. As globalization is taking place nowadays, most of the companies are international companies, friends from different countries will

give us opportunities and benefits since now and so on, especially that we were all in the age of going into working life.

What I learn from ASCENT2010

Author: Phattharaphong Kaoian (Ian)

Selected topic: Learn research and development of technology all over the Asia

As I had been participated in the ASCENT or Asian Students Collaboration Encouragement Program in Technology which held on 10th to 17th March 2010, I was very impressed by so many things and also gain more knowledge. In my opinion, this program would benefit the student both in undergraduate and graduate level as it provides a great opportunity to the participant. We have visited some leading companies in Japan and also visiting some laboratories that have an awesome research.

I used to visit some Japanese companies in Thailand while I was in the Bachelor's degree and learn that not just technology from Japan is very good but also the management is so wonderful as well. But, when I went to visit the companies in Japan, I saw things that different from in Thailand. In my country, many jobs are done by human or labour, but not in Japan where many robots took place instead with a very high performance. Even though some tasks still be done by human but there are still using robots to help such as delivering the parts of car's body to the workplace. Moreover, in Japan, there are already have some electric cars on the street while in Thailand, the hybrid cars are just on sale not so long ago. As for this, I have learnt many new things about the electric cars and its advantages, disadvantage and the trend in the future.

For the university laboratories, I was very impressed by the supercomputer which used to be number one in Asia. With this computer, any big programs can be compiled in just a few seconds or minutes. This would benefit a lot in doing a research. I also went to see a robot which have an omni wheel and can carry a weight equal to 4-5 people on it. The satellite which made by student from Tokyo Tech is great also, and they still keep developing it until now the version 3 is nearly ready to be sent. These are just some of the research that I have seen in this program and I strongly

believe that there are still many good researches that have a very good performance and design. The laboratories visiting give me motivation to conduct a good research and also the inspiration to work in this field.

Before I applied to this program, many people asked me whether this 8 days trip to Japan would worth the money I have to spent and I admitted that I hesitate for quite a while but after I came back from Japan, I now know that I choose the right choice to apply for this program as it widen my vision on the research and development of the new technology in Asia.



Learn research and development of technology all over the Asia

Author: Raviphol Sukhajoti (Earth)

Selected topic: Learn research and development of technology all over the Asia.

ASCENT 2010 gave us the opportunities to learn research and development of technology all over the Asia. For example, we've visited some of researchers' laboratory of Tokyo Institute of Technology, several companies. We've seen many new types of cars at Nissan headquarter and Electric Car from Mitsubishi. Furthermore, Tokyo itself still has a use of combination technology in everyday life.

First of all, when we arrived to Japan, we could see many development of technology in this country. The technology has been used in transportation and high-speed telecommunication. The mobile phone can

immediately gather lots of information, such as transportation schedule. The trains and buses usually are on time. These infrastructures of Tokyo are really important to maintain its great economic scale. Technology can be used with full function here, which you won't see this in under-developing country as many countries in Asia. Secondly, we've visited many companies' factory that uses machines or robots in their production line, which have a lot of benefits, including security, production cost and quality. On the next day, we've visited Tsubame, The very powerful supercomputer. Tsubame can be used efficiently by distribute the accessibility to all student in Tokyo Tech. This should be benefit for student research. In many universities, student won't easily permit the student to grant the access to supercomputer.

After that, we have inspected the researchers' laboratory: Odor mixing devices, image processing techniques. These research topics are interesting. Odor mixing box with remote control is the new kind of technology by combining much kind of knowledge. In the same day, we inspected the clean energy research. In example, the way to improve efficiency of power from solar cell is to connect the energy transfer between cities, and make the power compensation, so the power from solar cell can be used all the times. We also have a chance to ride Mitsubishi electric car. This car is capable of a performance, but there still be some problems, such as battery charging or infrastructure. However, we can feel that the time of electric car will come soon or later.

After the presentation, we've met students from many Asian countries, so that we could share the ideas, and made a discussion about how can technology be helpful to countries. We know that the research and development of technology are important for developing the country and consequently for the whole Asian countries.

What I learn from ASCENT2010

Author: Saran Lertpradit (Nat)

Selected topic: Learning research and development of technology all over the Asia

According to the goals of the ASCENT program, which are to create connections among Asian students, strengthen communication skill and learn about research and development of technology, all of the goals are aimed to encourage students to attend extracurricular activities with foreign students. Because, nowadays, studying in class doesn't give enough experience for further career, students have to join laboratory to practice what they have learned. Having a chance to visit other places including other country will make students broaden their attitude, so their work will be even more productive.

From my experience of attending ASCENT2010, I've an opportunity to visit factories and laboratories. At First, we visited Ajinomoto and Nissan factories. It is a very good experience to see the real systems and machines working after we have only studied about them theoretically. The great thing that each ASCENT participants came from difference major field of study is each student collect data on various points of view, so the summary of their brainstorming is more reliable than having only few aspects.

Another notable experience is when I visit laboratories at Tokyo Tech. I have studied roughly about TSUBAME before attending this program. I never thought that I could walk into a supercomputer's rooms or watch them very closely. Many people would look at it through pictures or videos. After that I went to Tokyo Tech's laboratories which doing research on robotics and intelligent satellite. At robotics laboratory, I've seen many interesting robots. My favorite one is the Roller Walker, a roller skating robot which can create skating movement by moving its legs that attached with wheels. Even though there are many robots which I couldn't think of, they have already built them and those projects are done successfully. Visiting laboratories give me a lot of inspirations. I would like to talk with people in those labs but the time of visiting is quite too short and it would be nice if I could also visit the image processing laboratory.

In summary, if people are interested in exchanging ideas and knowledge, technologies would be rapidly developed. I hope other students would have opportunities to join this program.

What I have learnt from ASCENT2010

Author: Sittichok Thanomkulrat (MAC)

Selected Topic: Strengthen an international communication skill

ASCENTS 2010 is a program which aims to create a relationship among Asian students, Strengthen an international communication skill and Learn research and development of technology all over the Asia. Strengthen communication skill is a good way to get used to communicate with the other people which it can be useful in the future.

There are many reasons why I have chosen this topic. The first is that it helps me to study Japanese. Before I have come to this Program, I feel that my Japanese language is quite low. When I found Kanji, I have to wait for a second to think what it is but now I can read it faster. Not only reading kanji, my speaking and listening proficiency has also improved too. I can sometime understand the native Japanese speaker at their usual speed. The second is that this program is a good chance to practice speaking. This program is consisted of many people and it's a group assignment, so you have to speak with the others. To speak with the other peoples is not easy since you have to make sure that what you want them to know is the same as what you are saying. So you have to think before you are going to say it. The Third is that you can learn many things from communicate with the other peoples. Speaking with foreigner friends can help you to learn their culture and their way of thinking. For instance, when I have to brainstorm about the project, which is about CSR, I have found that Japanese people are diligent and hard working. They keep doing to make it finished perfectly. Besides from theirs way of thinking, I have learn Japanese culture too. When I have to stand on the escalator, I have to stand on the left side since the others can move faster on the right side. I have to say Itadakimasu before eating and say Gochisousama after eating.

To sum up, ASCENT2010 project is a good program and great chance for strengthen an international communication skill. Because it helps improve my Japanese language skill, good chance for practice speaking and I have learnt so many of Japanese culture and their way of thinking. So, in my opinion, this program is successful in "Strengthen an international communication skill" goals.

Appendix: Participants List of ASCENT2010

Participating student of ASCENT2010 (12 students)

Name	Nickname	Sex	University	Department
Hiroki Kobayashi	Taller	M	TIT	Chemical Engineering
Masayuki Murata	Masao	M	TIT	Mechano-aerospace Engineering
Shota Suzuki	Sho	M	TIT	Inorganic Materials
Takahiro Yamaguchi	Taka	M	TIT	Industrial Engineering and Management
Yayoi Iwahashi	Yayoi	F	TIT	Computer Science
Yuta Aoki	Yuta	M	TIT	Physics
Kamolchanok SHOWPITAKVATANA	PANG	F	CU	Information and Communication Engineering
Mali PROMKINGKAEW	MALI	F	CU	Aerospace Engineering
Phattharaphong KAOIAN	IAN	M	CU	Electrical Engineering
Raviphol SUKHAJOTI	EARTH	M	CU	Computer Engineering
Saran LERTPRADIT	NAT	M	CU	Computer Engineering
Sittichok THANOMKULRAT	MAC	M	CU	Computer Engineering

Staff of ASCENT2010

Akihiro Kasahara	Aki	M	TIT	Mechano-aerospace Engineering
Kazuma Kuroiwa	Kazu	M	TIT	Inorganic Materials
Kota Ashikawa	Asshy	M	TIT	Mechanical and Environmental

				Informatics
Akiko Okawa	Akko	F	TIT	Chemistry
Chieri Yabu	Chieri	F	TIT	Metallurgical engineering

Advisers of ASCENT2010

Name	Sex	University	Position/Organization
Akinori Nishihara	M	TIT	Professor, The Center for Research and Development of Educational technology
Yoshitoshi Tanaka	M	TIT	Professor, Graduate school of innovation and Management
Kenji Saito	M	TIT	Professor, Health Service Center
Emiko Yamada	F	TIT	Associate Professor, Student Support Center
Tsuguhiro Shimura	M	TIT	International Cooperation Coordinator, International Office

Ajinomoto



Ajinomoto



Tokyo National Museum



TSUBAME



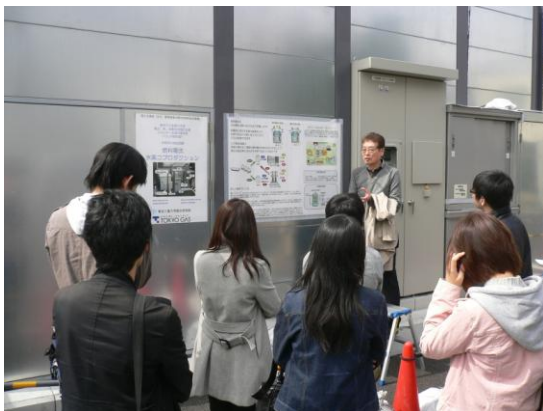
TSUBAME



Laboratory visit



AES project



AES project



Party



JTECS



NISSAN



Final presentation





Design/Edit : Student Association for Global Exchange



URL : <http://www.sienp.titech.ac.jp/~sage/index.html>

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