



Report on the Engineer Training and Research Innovation Program (ETRIP) 2006

KYOTO INSTITUTE OF TECHNOLOGY

Preface

The international educational activity in higher educational institutes in Japan, including our university, Kyoto Institute of Technology (KIT), has long been more-or-less focused in accepting foreign students into our educational system, from bachelor's level to Post-Doc's level, and internal organizations in university have been constructed to serve the needs of "visiting (inbound)" students. KIT has settled foreign students section and prepared several teaching members to take care of them both in academic and private life. KIT is a small-sized and strongly Science/Technology-oriented university. For many years we have 150-200 foreign students in the campus.

The inter-university agreements had traditionally been promoted by very personally active teachers through personal friendship or interaction with a researcher in the counterpart foreign university. Its main purpose has been the active exchange of researchers and research developments.

After KIT opens the International Planning Division (2002) and the International Exchange Center (2004), we have changed our policy of International Activities to be unified and promoted from the total university view. As of January 2007, we have more than 40 partner universities and institutions. This number is not surprising: this is the result of our efforts to focus on "acting" exchange programs, by discontinuing "resting" programs.

From around the beginning of this new Century, there have been very active nation-wide discussion and reports stating that we Japanese should be able to USE ENGLISH as international communication tool. In some book, one can hit the sentence "the author found medical doctors and engineers can speak English better than English teachers". Needs or necessity to communicate in English is actually very high for these people. The graduates from KIT are mainly entering into various industries and the present industrial environments of Japan are not limited within the country. Thus, for these 10 years, we have gradually changed our English education into cultivating the ability of English usage. Besides the funding support for study abroad from the national government, we introduced our own supporting system by using KIT Centennials Fund. However, the number of students who try to go and study abroad has not been drastically increasing.

The research activity of our teachers is highly international. For example, during 2004/2005, our teachers have been abroad 1.5 times and stay there for 8 days, in average; mainly to attend academic meetings, to collaborate with their international coresearchers, or to make dispatch education in partnership universities. These activities are partly reflected onto the result of the program dispatching our students to international academic meetings held outside Japan, for which we also make a partial support from 2002, and the field of the students utilizing this support is expanding.

The crucial point is placing the students in the surroundings which "forces" them to use acting English. From this very simple idea, coupled with the high international activity of our teaching staff, we have planned an out-bound (study abroad) program in science & technology fields (Engineer Training & Research Innovation Program: ETRIP). Fortunately, three-year term support was approved by MEXT and the program started June, 2005.

In this brochure, the results and fruits of our second-year activity are compiled. We have rather focused to introduce the participants' real voice, rather than listing the formal statistics or official report. Accounting for the suggestions and comments given by the actual participants, students and teachers, and the staff of exchanging institutions, which kindly accepted our students, we try to improve ETRIP further and offer our students to cultivate their actual communication ability in the coming year.

The actual fruit of our trial should be carefully verified, but the questionnaire filled by the students

who participated in this program (irrespective to the subprogram) tells that these actions are very valuable and effective to promote their motivation.

We would like to express our sincere thanks to the staff and the coordinators of our partnership universities, who very kindly accepted our students and researchers in order to perform this ETRIP. Without their hearty collaborations, we can't harvest the fruitful results.

Director of the International Exchange Center, KIT
Vice-president KUNUGI, Shigeru, Dr. Eng.

Table of Contents

I. Preface	p.1
II. Table of Contents	p.3
III. Overview of the Engineer Training and Research Innovation Program (ETRIP)	p.5
IV. Reports from Participants	
Chapter 1 Participation in Dispatch Education at Partner Institutes	p.9
【Hanoi University of Technology, Viet Nameese Academy of Science and Technology, and University of Natural Sciences, Vietnam National University - Ho Chi Minh】	p.10
1. Brief Report on the Engineer Training and Research Innovation Program (ETRIP) 2006 in Viet-Nam	NISHIYAMA Hiroshi
2. Through my trip to Vietnam	KOMAI Misaki
3. Experience in Vietnam	SORIOKA Kazuhiro
4. Intensified Course on Molecular Characterization of Polymer Materials in VietNam (ETRIP2006)	Tran-Cong-Miyata Qui
【Cantho University, and University of Natural Sciences, Vietnam National University-Ho Chi Minh】	p.18
5. Outline of the Engineer Training and Research Innovation Program 2006 in Vietnam	
6. Report of the Engineer Training and Research Innovation Program carried out at Cantho University and University of Natural Sciences-HoChiMinh	NAGAI Rika
7. Energetic country Vietnam	NAKAJIMA Satomi
8. The Training Program of International Engineer in Viet Nam	MAEDA Atsushi
9. Challenging can expand my possibility! ~That I learned in Vietnam~	SUGIMOTO Masayuki
10. Report of the Engineer Training and Research Innovation Program (ETRIP) carried out at the University of Natural Sciences and Vietnam National University- HoChiMinh in Vietnam	YAMAGUCHI Masamitsu
11. Report of the Engineer Training and Research Innovation Program 2006 in Vietnam	KAMEI Kaeko
【Chulalongkorn University】	p.31
12. Report of the Engineer Training and Research Innovation Program in Thailand	IDE Fumi
13. Brief Report of the Engineer Training and Research Innovation Program (ETRIP) carried out at Chulalongkorn University	SATO Tetsuya
Chapter 2 Research Study under Ex-campus Supervisor in Partner Institutes	p.37
【Yeungnam University】	p.38
14. Report of the Engineer Training and Research Innovation Program in South Korea –Season Reminded from Colour in South Korea–	YASUDA Shohei

15. Research carried out at the Yeungnam University, School of Textiles through the Engineer Training and Research Innovation Program (ETRIP) –Influence to makeup of Knowledge about a fashion and textile–	NAKAZAWA Hiroshi
16. Brief Report of the Engineer Training and Research Innovation Program (ETRIP) carried out at the Yeungnam University	SAKAMOTO Kazuko
【Technical University of Catalonia】	p.46
17. 90 days in Technical University of Catalonia	MATSUI Yoshiaki
18. Brief Report of the Engineer Training and Research Innovation Program (ETRIP) carried out at Technical University of Catalonia	SATO Tetsuya
【North Carolina State University】	p.51
19. Brief Summary of the Project	
20. A report on the Engineer Training and Innovation Research Program (ETRIP)	KOBASHI Shuhei
21. A Brief Report on the Fruits of ETRIP 2006 Project with North Carolina State University	MASUDA Arata
【St. Georges University of London】	p.57
22. A report on the research at St. Georges University of London	HASHIMOTO Reina
23. Brief Report of the Engineer Training and Research Innovation Program (ETRIP) carried out at St. Georges University of London in the United Kingdom	YAMAGUCHI Masamitsu
【The Ecole des Mines de Douai】	p.61
24. Measurements of the hydraulic permeability of woven jute fabric and the mechanical properties of woven jute fabric-reinforced composites	TAKINISHI Yasuisa
【University of California, Davis】	p.63
25. Development of an isotope-labelling LC/MS method and its application to metabolomics	KOZUKI Kodai
【Ryerson University】	p.66
26. The Research of Fiber Bragg Granting Sensor Embedded in Composites	TAKAI Yoshihiro
27. A Brief Report of the ETRIP Program in Canada	NAKAI Asami
Chapter 3 Short-term Intensive English Program at the University of Leeds	p.71
28. Short-term Intensive English Program at the University of Leeds, UK	
29. Program Schedule 2006	
30. Students' Reviews of the Short-term Intensive English Program at the University of Leeds	

Overview of the Engineer Training and Research Innovation Program (ETRIP)

1. Purpose :

To develop the systematical and well-planned education program which students, mainly in master course of science and technology, study through the practical experience in the real international environment with the aim of nourishing skillful engineers who contribute to the future international industrial world.

2. Organization :

The ETRIP Promoting Committee
International Exchange Center
Educational Program Center
Graduate School of Science and Technology

3. Term:

The ETRIP is supported by the Ministry of Education, Culture, Sports, Science and Technology in Japan for three years from April 2005 to March 2008.

4. Plan :

The ETRIP offers graduate students two options. One is to experience assisting their KIT supervisors in researchers at the partner institutes. The other is to perform an independent research study under external supervisors of partner institutes.

Through these trainings overseas, it is expected that the students think themselves to enhance their wits and broaden their horizons. They gain the firsthand experiences how to nourish the future engineers and conduct productive research developments under unfamiliar research environments in foreign countries. By increasing the ability in this way, we aim at cultivating students' practical skills for international communication.

Furthermore, as preparatory training to the graduate level, we offer the English programs closely-related to their specialty for undergraduate students. This program is complemented by self-learning system of the CAE (Computer-Aided-Education) and short-term intensive course of English at a foreign partner university, which will become the linkage to the programs for graduate students.

The ETRIP is conducted by the promoter for international exchanges under the systematic administration and close cooperation among the teaching staff and educational institutions concerned.

5. Programs in academic 2006 (April 2006-March 2007):

Programs for graduate students

1) "Participation in Dispatch Education at Partner Institutes"

4 groups formed by 1-3 graduate students and their supervisor were dispatched to the 5 partner institutions in two countries, which were Cantho University, Hanoi University of Technology, Institute of Chemistry at Viet Nameese Academy of Science and Technology, and University of Natural Sciences of Vietnam National University-Ho Chi Minh in Vietnam, and Chulalongkorn University in Thailand (see the attached figure). Students assisted their supervisor in lectures and seminars, for the

students at host institutions.

2) “Research Study under Ex-campus Supervisor in Partner Institutes”

8 graduate students were sent to work on independent research study under external supervisors at 7 partner institutions, which were Yeungnam University in South Korea, Technical University of Catalonia in Spain, North Carolina State University and University of California at Davis in the United States of America, St. Georges University of London in the United Kingdom, Ryerson University in Canada (see the attached figure). Their supervisors in KIT have visited the host institutions during the students’ research work for a few days, in order to overview the research progress and to discuss with the host researchers.

For both of these programs, additional option can be attached. That is a short international internship at partner companies. Fairly high portion of our alumni in industry is actually working abroad and the students would be “sent” to similar facilities after getting their job. Some might be hired directly by a foreign-affiliated firm. Even a short term, the experience of “working” in a global business should be very precious.

Programs for undergraduate students

- 1) KIT introduced the short-term intensive English course in summer for undergraduate students at the University of Leeds, and 28 students attended it, accompanied by a KIT English teacher. A special program ‘Technology and Art’ has prepared under the discussions among teachers of both sides and offered to our participating students.
- 2) In 2005, installation of a CALL system was completed to facilitate language acquisition through interactive (two-way) voice and image interchange, utilizing a digital English teaching/feedback system. Purchase and installation of additional software were made in 2006 further developing this E-learning system to benefit the specialized needs of science and technology students with regard to field-specific terminology.

These are placed in line of our continuous effort on the improvement of the educational program for the international communication. Each items for this improvement is not very unusual; the qualification by standard test (TOEFL, TOEIC etc) to be used in regular education/examination, concerted English/engineering education, and so on. The key point is that all these items are streaming down to the first and the second programs for graduate students mentioned above.

6. The prospects after academic 2007:

KIT continues the programs to dispatch graduate students to partner institutions. Students will assist their KIT supervisor in educational activities at partner institutions, and will perform independent research studies under external supervisors on the basis of the detailed research plan made by KIT supervisor and host institutions. To meet the needs by the industrial world, each program incorporate the internship training for students at the scene of the research and development of the leading edge, mainly in the Japanese companies adjacent to the host institutions to learn the real industrial environment. To check the progress and evaluate the plans and results, KIT sends the promoter to host institutions.

Furthermore, KIT continues to maintain and improve the E-learning system with the aim of providing undergraduate/graduate students with better English education environment, as well as continues a short-term intensive English program for undergraduate students at our partner institution.

**The Engineer Training and Research Innovation Program (ETRIP)
Participants in Academic 2006**

Program	Host Institution		Term	Number of Students
	Name of Institution	Country		
Dispatch Education	Hanoi University of Technology, Viet Nameese Academy of Science and Technology, and University of Natural Sciences of Vietnam National University-Ho Chi Minh	Vietnam	8 days	3 student(s)
Dispatch Education	Cantho University, and University of Natural Science of Vietnam National University - Ho Chi Minh	Vietnam	15	4
Dispatch Education	Chulalongkorn University	Thailand	10	1
Research Study	Yeungnam University	South Korea	14	2
Research Study	Technical University of Catalonia	Spain	90	1
Research Study	North Carolina State University	U.S.A.	80	1
Research Study	St. Georges University of London	U.K.	88	1
Research Study	The Ecole des Mines de Douai	France	92	1
Research Study	University of California, Davis	U.S.A.	57	1
Research Study	Ryerson University	Canada	62	1
Summer English Program	University of Leeds	U.K.	32	28

Reports from Participants

Chapter 1.

Participation in Dispatch Education at Partner Institutes

- Hanoi University of Technology, Viet Nameese Academy of Science and Technology, and University of Natural Sciences -Ho Chi Minh p.10
- Cantho University and the University of Natural Sciences -Ho Chi Minh p.18
- Chulalongkorn University p.31

Brief Report on the Engineer Training and Research Innovation Program (ETRIP) 2006 in Viet-Nam

**(Hanoi University of Technology, Viet Nameese Academy of Science and Technology,
and University of Natural Sciences at Ho-Chi-Minh City)**

NISHIYAMA Hiroshi

Graduate Student

Master's Program of Macromolecular Science and Engineering

This is my first experience in VietNam. I and other two graduate students in the Molecular Engineering of Polymers Lab. directed by Professor Q. Tran-Cong-Miyata took a trip to VietNam in September 24th, 2006. First, we went to Hanoi University of Technology, Polymer Centre to assist Professor Tran-Cong-Miyata with his lecture on polymers at this Center. Because this is a research center, there are no many graduate students attending the lecture. There were a variety of discussions on the structure/property relationship of polymer raised by many faculty members during the lecture. After two days of visit at the Hanoi University of Technology, we went to the Institute of Chemistry, Viet Nameese Academy of Science and Technology (VAST) in the suburb of Hanoi. This is a national research center of VietNam resembling to the Advanced Institute of Science and Technology (AIST), Japan. Here, we visited research laboratories on polymers and assisted Prof. Tran-Cong-Miyata with his lecture at VAST.

After staying in Ha-Noi for 4 nights, we left for Ho-Chi-Minh City to visit University of Natural Science in Ho-Chi-Minh City. Here, we have worked as teaching assistant for the lecture given to faculty members and students by Professor Tran-Cong-Miyata. My impression is that Ho-Chi-Minh City is much larger and modern than Ha-Noi. Besides the time spending in the university, we went downtown of Ho-Chi-Minh City with Vietnamese students at the University of Natural Sciences for dinning. We spent time together, socializing to know more about the Viet-Nam and the peoples.

On the last day of this visit, we went to Notre Dame Church and the National theater in the center of the city where we accidentally saw a wedding ceremony. We took picture of the couple in the front of the National Theater. At midnight of September 30th, we went to Tan-Son-Nhat Airport and took a night flight back to Japan.

During this trip, I learned a lot about the life in Viet-Nam and Vietnamese. Also, I got a chance to brush up my English. I would like to thank Kyoto Institute of Technology and Professor Qui Tran-Cong-Miyata for giving this opportunity.



A scene taken after the intensified course on Structure-Property Relationship in Polymer Materials at the University of Natural Sciences, Ho-Chi-Minh City.



Minutes of "socialization" among graduate students of two countries in a downtown area of Ho-Chi-Minh City after the intensified course.

Through my trip to Vietnam

**(Hanoi University of Technology, Viet Nameese Academy of Science and Technology,
and University of Natural Sciences at Ho Chi Minh)**

KOMAI Misaki

Graduate Student

Master's Program of Macromolecular Science and Engineering

This is the first time for me to go abroad. It was over 8 p.m. when we arrived at HaNoi (HN) airport. We immediately went in to the hotel by taxi because it is far from the airport to the city area. I think it took about 30 minutes to enter the city; however, I only saw some large signboards of overseas enterprises lighted up. When we entered the HN city area, we were worried about traffic accidents because the streets were occupied with many motorbikes and taxis. I heard heavy Klaxons everywhere and saw a cloud of dust rising. I got the impression that we came to the vigorous country.

The next morning we took a walk around the hotel before our visit at the HN University of Technology. I walked along an unpaved sidewalk carefully not to stumble over a stone. During a walk, Vietnamese people who had the breakfast at street stalls, gave us strong stare and this made us a little tense. I had a new understanding that this was not Japan.

After that we went to the HN University of Technology and helped Prof. Qui's lecture as teaching assistants. All of the participants listened to the lecture enthusiastically. After the lecture, we visited the polymer research center of the university. There are many devices and machines in the center and composite materials with bamboos are studied in cooperation with Doshisha and Ritsumeikan universities. I was surprised when seeing products made of the fiber materials in that center. Actually, I also saw a manufactory where I smelled oxidized oil in the center. The HN University sells the products to a company and if the products are not bought by the company, they are sold by university-self. In brief, the university holds the research, design, manufacture and marketing. This means that the university plays an important role in the country. In the polymer research center, they performed the research on the macroscopic viewpoint as far as we saw. However, the time when they should return to the microscopic viewpoint will come in order to improve the materials in the regard of physical properties as elasticity and strength. That is the reason why it is necessary for HN University to get the research information from other universities such as KIT. I think our trip to VN via this program would help the goal of information exchange be reached.

On the 4th day we helped the lecture at Viet Nameese Academy of Science and Technology (VAST). In VAST, the environment of a device per room is very good. As a result, it is easy for researchers to control temperature, humidity, light and vibration as well. On the 5th morning, we went to the HN airport in order to leave for Ho-Chi-Minh (HCM). On the way to the HN airport, I saw large factories of oversea enterprises along the highway. I think that with the source of vast extents of land and a large population, VN is a potential place for foreign enterprises to apply mass production with the dramatic advantage of low personnel costs.

HCM has wider streets and many buildings and it is proper to give a description of an urban city. HN has some signboards in kanji and Chinese-style temples because of its historical effect. In addition, HCM has some European-style buildings. There are a lot of tourists from abroad. At night, HCM has many street stalls and neon-lit buildings. On our last day trip, we went to the market to buy presents for our friends in Japan. The market looks like a large gymnasium and has many kinds of stalls, where people sell

fabric, food, shoes, accessories and ceramics. The market was very muggy because of a heated atmosphere from many people and steaming dishes. We tried our best to bargain with shop assistants and we were drenched in sweat. Almost all shop assistants were women. They recognized me Japanese and spoke to me in “broken” Japanese. I was surprised at their rich vocabularies in Japanese and impressed with their strength. Foreign languages become a tool for these people to make livings. By saying this, I mean these people really makes foreign customers feel more comfortable. Generally, women in VN are working hard. I guess that they are powerful because they now share the work of supporting their family with their husband or even they are the main labor in their family. This could not be seen before the VN War when all of these work had only to be done by males. In my opinion, powerful women are key figures in Vietnamese animation. I think they make VN become an attractive country.

I am glad that before starting my job hunting, I was able to set foot on foreign soil, especially VN. This trip gave me an incentive to make efforts for the coming Japan. I think Vietnamese have such a strong willing-they know how to eat well and work hard. They are full of living power. We Japanese live with much ironical stress due to the developed nation Japan, so we now need living power as Vietnamese.

Finally, I would like to express my deep gratitude to KIT, Vietnamese people and Prof. Qui for giving me such a valuable opportunity.



A scene of the lecture at Department of Chemistry, University of Natural Sciences at Ho Chi Minh City



A picture taken after the lecture at the University of Natural Sciences at HCM City

Experience in Vietnam

(Hanoi University of Technology, Viet Nameese Academy of Science and Technology,
and University of Natural Sciences at Ho Chi Minh)

SORIOKA Kazuhiro

Graduate Student

Master's Program of Macromolecular Science and Engineering

I got a chance to be a member of the Engineer Training and Research Innovation Program to visit Vietnam. I visited Vietnam in one week with Professor Qui and two other Japanese students. I was so eager to participate in this first trip to a foreign country. However, being on the airplane for the first time made me nervous.

We went to universities and a research center in Hanoi, the capital and Ho Chi Minh, the busiest trading city of Vietnam. From the airplane, Vietnam appeared so different from Japan to me. The streets were full of trees and motorbikes.

The plane landed at Noibai airport. We got out of the airport and were very surprised that it was so crowded outside the airport. Actually, I could not understand anything, maybe they were, I thought, talking in Vietnamese only. The sound of motorbikes and cars Kloxans came to my ears all the time. The noisy cities made me surprised.

Vietnamese culture is so different from Japanese culture that I had some kind of cultural shock. Although culture is different, I felt happy when recognizing that we have something similar. For example, both Vietnamese and Japanese use chopsticks when having meal.

At first, we went to Hanoi, the capital of Vietnam. This city was crowded with many motorbikes. In Hanoi, we visited Hanoi University of Technology and Viet Nameese Academy of Science and Technology. We met Vietnamese professors, researchers and students. Some of them have been abroad to follow graduate program. Therefore, they can speak English, French and Japanese. When comparing the development of technology in Japan and Vietnam, we can easily find that Japanese technology has developed much highly. This is a disadvantage for Vietnamese researchers. However, "the coin always has two sides". Vietnamese people has recognized that they still do not have high technology so they have tried to improve it by getting chances to study new technique from developed countries. This helps them to improve not only their technology but also their international relationship and their language skills. During this time, I helped Prof. Qui to give a lecture, and discussed with the local students, of course, in English. In fact, I could not speak English fluently. That made me difficult to keep up with the story. In Hanoi, there are many Japanese factories and offices. Also, there are still many old buildings, resembling Kyoto. Then, I visited Ho Chi Minh City, the biggest city in Vietnam. Ho Chi Minh City is the most important economic center in Vietnam. About 300,000 businesses, including many large enterprises, are involved in high-tech, electronic, processing and light industries, also in constructing materials and agro-products. We visited University of Natural Sciences in Ho Chi Minh City and we also helped Prof. Qui to give one seminar to Vietnamese undergraduate students and one seminar to graduate students. These students are very active. They raised many questions for us to discuss. They can speak English very well. In my opinion, their English is better than our English. I was surprised that there are many female students in laboratory, and they are very active as well.

In conclusion, I got very tired during some first days of the trip because I could not be accustomed to Vietnamese culture and could not communicate with Vietnamese due to my limited English speaking ability. However, I gradually got used to Vietnamese environment. I am not good at English, but I tried to communicate with all my English skills and body language!! I think that it is necessary to improve my English speaking skill. Being shy, I thought, is not good. So it is necessary for me to try to speak English. In my laboratory, there are now two Vietnamese students who are coming here to pursuit their doctor and master degrees. This trip indeed helped me understand my two Vietnamese friends better because I somehow understood Vietnamese culture. By saying that I mean I become more open-minded after taking this trip. During this stay, I made friend with many Vietnamese students, and now my thought about Vietnam is changed. I like Vietnamese view, food and people. At last, I would like to express my deep gratitude to KIT, Engineer Training and Research Innovation Program, Prof. Qui. I highly appreciate this program, which allows Japanese students to understand how life is going in another country, Vietnam. I hope that more Japanese students will be able to join this program in the future.



At the entrance of Viet Nameese Academy of Science and Technology (VAST)



With students of the University of Natural Sciences in HCM City in a downtown restaurant.

**Intensified Course on Molecular Characterization of Polymer
Materials in VietNam (ETRIP2006)**
**(Hanoi University of Technology, Viet Nameese Academy of Science and Technology,
and University of Natural Sciences at Ho-Chi-Minh City)**

TRAN-CONG-MIYATA Qui

Professor

Department of Macromolecular Science and Engineering

KOMAI Misaki, NISHIYAMA Hiroshi, SORIOKA Kazuhiro

Graduate Students

Graduate School of Science and Technology

The Engineer Training and Research Innovation Program (ETRIP) 2006 was carried out at three institutions and universities in VietNam: Institute of Chemistry, Viet Nameese Academy of Science and Technology, Ha-Noi; Polymer Centre, Hanoi University of Technology; Department of Chemistry, University of Natural Sciences, Ho-Chi-Minh City, from September 25th to 30th, 2006.

This course was divided into two parts: a basic course for graduate students and an advanced course for young faculty members. Additionally, series of simple experiments were also carried out to demonstrate the structure analysis in real space (by optical microscopy) and inverse space (laser light scattering techniques). The contents are as follows:

1) Intensified Course for Graduate Students:

- Historical background of polymer science: from organic synthesis to polymer science.
- Polymer synthesis: polymerization techniques from free radical, cationic, anionic polymerization to recent living polymerization.
- Physical properties and molecular characterization:
 - Molar mass of polymers and its determination.
 - Multi-component polymers: the needs, structure-properties relationship.
 - Relaxation phenomena of polymer materials.

2) Intensified Course for Young Faculty Members:

- Requirements for designing the structure-properties relationship in multiphase polymeric materials.
- General principle for morphology control of multiphase polymers materials.
- Fundamental aspects of phase separation in chemically non-reacting and reacting polymer mixtures.
- Controlling morphology of multiphase polymeric systems using photochemical reactions: relation with the ordering phenomena in systems with competing interactions.
- Applications: specialty polymers and polymer nanomaterials.

3) Labworks:

- Structure analysis: in real space by optical microscopy, in reciprocal space by laser light scattering and the relationship between the two analysis methods.
- Observation of polymers morphology: in real as well as reciprocal space.
 - (a) Random morphology of multi-component polymer blends at phase equilibrium.

- (b) Spinodal structures of polymer blends induced by chemical reactions.
- (c) Hexagonal morphology emerging from photo-cross-linked interpenetrating polymer networks.
- (d) Lamellar morphology in polymer mixtures generated by photolithographic techniques.

REFLECTION

Viet-Nam is in the mid of her developments. Due to the long war at the end of the past century, the background education at the levels of high school as well as university has not been well established. As a consequence, Viet-Nam is still behind the standard of an advanced country, particularly her industries. Though young Vietnamese students have made significant achievements in the fields of theoretical physics and mathematics, researches required experimental experiences such as chemistry and materials science are still much behind the standard level due to lacking of chemicals and modern instruments. I think that support from Japan in both experimental science and technology will surely be a crucial and indispensable help for Viet-Nam in the next decades.



Explaining experiments on Polymer-Polymer Interfaces studied by Fluorescence Resonance Energy Transfer (FRET) Method at the Institute of Chemistry, VAST, Ha-Noi



Lecture on “Controlling Morphology of Polymer Blends by Using Light Modulation” at the Department of Chemistry, University of Natural Sciences, Ho-Chi-Minh City, Viet-Nam.

**Outline of the Engineer Training and Research
Innovation Program 2006 in Vietnam
(Cantho University and University of Natural Sciences -Ho Chi Minh)**

KAMEI Kaeko
Associate Professor

YAMAGUCHI Masamitsu
Professor

NAKAJIMA Satomi, MAEDA Atsushi, SUGIMOTO Masayuki, NAGAI Rika
Graduate Students

- 30 Aug (Wed) Arrive at Cantho
31 Aug (Thu) at Cantho University
Lecture "Study of malarial parasite" by KAMEI Kaeko
Campus tour
1 Sep (Fri) at Cantho University
Presentation by graduate students (NAKAJIMA Satomi, MAEDA Atsushi, SUGI-
MOTO Masayuki, NAGAI Rika)
Exchange with Vietnamese students
2 Sep (Sat) Visit village where Khumer people live, and see Khumer culture
3 Sep (Sun) Arrive at Ho Chi Minh City
4 Sep (Mon) at University of Natural Sciences
Experiment: Expression of Recombinant Protein (Mal-luciferase : Fusion protein of
Maltose-binding protein and luciferase)
5 Sep (Tue) at University of Natural Sciences -
Experiment: Extraction of Recombinant Protein
6 Sep (Wed) at University of Natural Sciences -
Experiment: Analysis of Recombinant Protein
Ajinomoto Tour
7 Sep (Thu) at University of Natural Sciences
Experiment: Purification of Recombinant Protein
Lecture by KAMEI Kaeko
8 Sep (Fri) Experiment: Analysis of Purified Recombinant Protein
Discussion
9 Sep (Sat) at University of Natural Sciences
Lecture by YAMAGUCHI Masamitsu and KAMEI Kaeko
10 Sep (Sun) arrive at Nah Trang
11 Sep (Mon) Visit Nha Trang University
12 Sep (Tue) Arrive at Ho Chi Minh
at University of Natural Sciences
Discussion for collaboration
13 Sep (Wed) Back to Japan

Report of the Engineer Training and Research Innovation Program carried out at Cantho University and University of Natural Sciences-HoChiMinh

NAGAI Rika
Graduate Student
Division of Applied Biology

I have never stayed in foreign country for such a long time. Everything is new experience for me. If I had visited Vietnam as only a travel, I would have only visited the sightseeing area. If I had not visited there by this program, I could not have a chance to talk to many Vietnamese students. Anyway I had a really good time in Vietnam.

In the Cantho University, I gave a talk for laboratory members. I don't have enough English skill. So, I only read the written sentences I memorized. I thought that the audiences didn't understand the essence of my experiments so much because of the inappropriate English expressions. But, I couldn't change the English expression easier to understand then and there. I was so sorry that I didn't have a good skill in English. I thought my presentation was not good enough. Even so, one Vietnamese student had an interest in my research. The e-mail, which I received from her after coming back to Japan, said so. It made me very happy. Now, we exchange each of research results by e-mail. I hope that I can keep this relationship with her in the future. From now on, I want to be the person who can give an interesting presentation for many people.

At every night, we had dinner with Vietnamese laboratory members. Normally, all conversation was in English. I had a hard time picking up what they said and saying what I wanted to say. If I had been able to speak English to my satisfaction, I could have talked more. In fact, I am not so quiet person in Japan. Because I couldn't come up with words quickly, I hesitated to talk to them. Although I was in that manner, they kindly talked to me many times. They said again and again until I understood, and tried to hear my poor English. I was greatly touched by their kindness. I managed to communicate gesticulatively. I was very happy when I could communicate with them in English. I really thought that I should study English harder.

After dinner, we went to café where they often go, and took a ride around a city in a motorcycle driven by laboratory member. We drunk the beer, but no Vietnamese seem to care that. I heard that drink-driving was not illegal in Vietnam. In Japan, it is hardly come down on. So, I was very surprised. To ride double, triple, and more is common in Vietnam. Even children drive the motorcycle. Vietnamese traffic law is mysterious. The streets were always flooded with a lot of motorcycles. The traffic was especially heavy in those days, because it was the day just before Independence Day. I was overpowered with how exciting it was. Most of Vietnamese drove with talking to the person in the backseat or another motorcycle driver. We followed so, and enjoyed driving around the city. I thought that I could slightly felt the Vietnamese culture.

The tour of the plant of Ajinomoto was the most impressive for me. When I visited companies for getting job last year, I had a chance to listen to talk of some company members. But, it was my first time to listen to talk of Japanese staffs working in foreign country. I felt that they thought their job was challenging. I have never met staffs talking about their work animatedly. They said that they already intended to work in the foreign country when they joined their company. They said that they didn't get attached to work in Japan, if they could make use of their potential. Their words shocked me. Until then, I had vague feeling that I would work in Japan. It may be because I think I don't have a good skill of English.

Although I think I am not so good at English speaking, I have never taken action on that. I realized that it narrowed my potential. I had enough time in my college life, but why didn't I try to study English? Through experiences in Vietnam, I could get my motivation to study English. I could have a wonderful experience. I'm going to keep in mind what I felt in Vietnam and carry on studying English. And then, I would like to challenge a long stay in foreign country one more time.

I have started to study English, since I came back to Japan. Although I can't spend a long time to study English, I try to keep doing a little bit of English learning ever day, for example, talking to the foreign student in the laboratory, listening to the English conversation CD, and watching the movie in English. In three months after coming back to Japan, the foreign student in my laboratory said that my English is getting better than before going to Vietnam. I am very happy to hear that. In March 2007, I gave the presentation on my research in English at Japan-Vietnam Joint Seminar held in KIT. I also did similar presentation in other international meeting just one year ago. Prof. Yamaguchi, my supervisor said that my English was improved very much. But, I regretted not being able to answer the question well at the meeting. I want to be able to say well in English what I want to say. I'm going to try to keep studying English in the future.

Finally, I would like to express my sincere gratitude to Dr. Le Viet Dung, Dr. Tran Linh Thuoc, and their graduate students for taking care of us. I would like to extend my gratitude to the International Planning Division of Kyoto Institute of Technology for providing me such a great opportunity. And, I'd like to thank members going together to Vietnam. I owe it to all of them that I could spend the wonderful time in Vietnam. I hope that this wonderful program will continue.



Energetic country Vietnam

(Cantho University and University of Natural Sciences-HoChiMinh)

NAKAJIMA Satomi
Graduate Student
Master's Program of Applied Biology

I could learn many things from staying in Vietnam for two weeks. I have been to some foreign countries so far. However, it was the first experience that stayed in foreign country with the purpose other than sightseeing. Vietnam is one of the countries that made a deep impression to me. I believe that what I learned in Vietnam gave me big flexibility to my sense for value. I felt many culture shocks in Vietnam. The most difference between Vietnam to Japan is the big energy.

We arrived at Ho Chi Minh City in Vietnam first. It's a biggest city in Vietnam. There are many high buildings in the middle of the city like Japan. We were surprised to see overflowed with a lot of motorcycles. People ride them without helmet. A lot of people ride the small motorcycle by two people. Young child with his mother, elderly person and even pregnant woman ride a back seat of them. Surprisingly, we saw the people riding them by three people. The traffic light is few though it has a lot of traffic. So the traffic judgement when to stop or to go depends on themselves. Taxi keeps blowing the horn to dodge a large amount of motorcycle. All of them were spectacles that were not able to be seen in Japan, and I was very surprised. Vietnam was a country that gave me a strong impact from the first impression.

Then, we move to Cantho City which takes five hours from Ho Chi Minh City by car. Cantho is a delta area where surrounded by many big rivers including the Mekong River flow. The river seems brown because it contains soil. I felt magnificence even fear of nature in the color and the wide flow of the river which seemed to swallow everything. The bridge is not laid in the Mekong River. A big ferry took cars, motorcycles and person and it came and went in the river. We went to see market in the river. There were many people to sell to buy by ship. They sell many fresh products from the fruits such as the pineapples and the watermelons to the raw fish and meat. There is neither refrigeration equipment nor wrapping. The products directly put under the strong sunshine. It is quite different from Japan. There is a supermarket also in Vietnam, and, of course, a lot of products packed like Japan. However, such a sales policy also still remained and I thought that it saw a lot of respects in developing Vietnam. If the country is different, the sales policy is also such different. They are directly put on the boat. It would not be allowed because of insanitary situation, however, it seemed fresh and delicious. It was not able to feel in modernized Japan, and I could feel the one like each power. I was able to feel the energy of people who lived there by no feeling in modernized Japan. Of course, there is a large supermarket also in Vietnam. And, the wrapped product is sold in it. I was able to see two character of developing Vietnam.

At Cantho University, we visited the laboratory that researched the plant physiology, and people guide us around the university. Then, we introduce ourselves and our research. After that we discuss about it. Students were interested in the culture of Japan and my research. They did a lot of questions. As for the discussion that used English, I felt impatience when it was not transmitted what I want to tell. They were very friendly. They taught us traditional play of Vietnam. After eat dinner, they took us behind the motorcycle and ran in the city at night. The traffic of Vietnam was numerous though the night came. I



was very exciting when I ride on behind the motorcycle.

Surprisingly, Vietnamese people were early rising. Large parks are beside a river and middle of the city. A lot of people have gathered in early morning. Many of them enjoy playing sports or walking before breakfast. They seem to get up before five o'clock in the morning. The worker in Vietnam doesn't have the overtime work, and the ending time is decided five o'clock of the evening. In general, they go to the office early morning to finish. It was surprising for me, too.

After three days stay in Cantho City, we return to Ho Chi Minh City to visit University of Natural Sciences in Ho Chi Minh City. We stayed as teaching assistant of the student

experiment. I had the chance to explain the result and the consideration that had been obtained from the experiment in English. It was most difficult for me in this trip to speak English. The daily conversation can be told by using the gesture. Even though it is difficult to explain for Japanese student to understand by using Japanese in Japan, it is much more difficult for me. At that time I felt impatience again. And I recognized the importance of English as a communication tool. I felt strongly that I wanted to study English more, and I want to be able to communicate with foreign person more easily.

In addition, we were given the chance to visit the Ajinomoto factory in Ho Chi Minh City. There are two kinds in the Japanese factory in the developing country. It is a factory that makes the product from a cheap labor cost and a cost of materials for the Japanese, and a factory that makes the product for a local consumer. The Ajinomoto factory is a factory that makes the product for a local consumer. In this factory, some Japanese are working with Vietnamese people for the development of Vietnam through food. We have a chance to talk with Japanese who work there. It was their most impressive word for me, "We are working with Vietnamese people for the development of Vietnam. 100 works at Japan, ten results are actually felt, and 200 results can be actually felt by 100 working at Vietnam." They choose to become a pioneer in foreign country than work as a cogwheel of the large organization. They said that they feel achievement though it has high risk. I was stimulated by their belief of their work and their passion to the work. Because I was just thinking about what kind of job I want to do after graduate school at that time. It is different from the job worth doing depend on each person. I could know one of them in Vietnam. And I thought it was attractive that they can please many peo-



ple. Then, I came to wanted to make product that many people really want in daily life in the future. It became a big chance to think about my course in the future.

At the end of the travel I visited Nachang. It was impressive that a coral reef, a tropical fish, and a blue sea. We visited Nachang University. We went to Nachang by night train. We visit university and see many fish in the large pool and make discussion. They grow shrimp and Hippocampus. After that we enjoy the beach and we went to see sunrise.

Vietnam is developing rapidly now. If I will go to Vietnam in 10 years, I will be surprised at the change. I hope that they don't lose vigor and national generosity in Vietnam. I wanted to visit there again!!

As I stated above, I was able to do various experiences through this program. I can learn difficulty, pleasure and importance of communication. And it was a chance to think about my future as a researcher. Though it became at the end, I wish to express our gratitude to the university and the professor who gave such a chance.

The Training Program of International Engineer in Viet Nam (Cantho University and University of Natural Sciences-HoChiMinh)

MAEDA Atsushi

Graduate Student
Master's Program of Applied Biology

In Viet Nam, I have experienced that I can't forget still now, and from now. It was my second time to go foreign country, but it was different feeling from first time. The reason is differentiation of position and the way of thinking about future. My first time to go foreign country was Thailand, and that was a kind of program of KIT to exchange students with partnership university. At that time, I just thought to understand the differentiation of custom and the way of thinking of foreign country as a student. This time, however, I went to Viet Nam as an assistant of teacher, as a researcher, and as a future international-engineer. I hope to work international engineer in the future, so this program became very valuable experience. I would like to appreciate many people who supported this program.

I was surprised at vitality of Vietnamese when I first land on Viet Nam, and that surprising last till the end of trip. It was hard rain when we left to Cantho from airport, but Vietnamese looked like they didn't care about hard rain and drive to somewhere by bike. I couldn't believe that, but I thought it was their natural custom later. As move away from Ho Chi Minh to Cantho the view of city changed dramatically. And I really surprised when we arrived at Mekong River because of the greatness of nature. I was looking forward to talk to people who live in town because I had not told Vietnamese except to acquaintance. People living in Cantho are very friendly as I expected. When we visited Cantho University, students was friendly too, and that made me easy. With some anxious, I helped lecture of Prof. Kamei and after that exchanged students. Students of Cantho University could speak more fluently than I, so I felt ashamed my English ability. But its feeling changed as continuing conversation. Because I just had not used to speak English as read.

At first, I expected that Cantho University was a little old and didn't have sufficient equipments. However, my expectation was wrong. I surprised when I saw the library of Cantho University, because it was very big and beautiful several times compared with KIT. And equipments of some laboratories which I saw were new and enough number. I perplexed the gap of university which had latest equipments and sight of country. I thought that Viet Nam would soon develop more and more, but the gap of developed portion and undeveloped portion would extend. Many things remained in impression in Cantho, for example, a lot of bikes, a lot of people who acted early morning, and magnificent nature. However, the most impressive was kindness of students.

After visited Cantho, we left to Ho Chi Minh, the biggest city of Viet Nam. I took part in assistant of experiment and discussed about experiment and some customs. The most surprised thing was a lot of master course students had jobs. They didn't satisfy their present status and tried to step up. I thought we should follow their posture otherwise we would be overtaken near future.

Although I didn't know the curriculum of a Vietnamese university, differ from Japan, master course students of Viet Nam were not used to experiment. So, to assist experiment and presentation my experiment in English was difficult to explain details, but it was valuable experience. They heard very seriously and asked a lot of question.

In the middle of schedule of experiment, we visited the Viet Nam branch of Ajinomoto Company. We were guided factory and heard some valuable stories, for example, the difficulty to make products in foreign country and get along with local workers. I felt I was lucky because there was rarely to discuss with person who were working in foreign country. This experience will affect me and become great benefit someday.

This program was continuation of surprising from beginning to end. Thanks to this program, I felt my view of life was changed a little. It is up to myself how to make use of this experience in the future. I would like to appreciate all people who supported this program. And I hope more active exchange is performed for future-international students.



Challenging can expand my possibility! ~That I learned in Vietnam~ (Cantho University and University of Natural Sciences-HoChiMinh)

SUGIMOTO Masayuki
Graduate Student
Master's Program of Applied Biology

In Cantho University, we first introduced ourselves and our study. Now, I have studied about the effects of mulberry leaf on metabolic syndrome. I presented my study focused on background in English, because they didn't know about metabolic syndrome well. That was first time for me presenting study to people who didn't know my speciality in English, so it was very difficult. But it was very good chance for me to expand my world view. I had intention of making slides to understand easily, but I thought that they couldn't understand it because I had read my manuscript in a monotonous voice. I thought that I must explain background more careful and speak easier English next time.

And I said that my hobby is Karaoke, to my surprise, I learned that Karaoke is popular in Vietnam. I could realize remarkable similarity between Japan and Vietnam. Thereafter, we could sense Vietnamese culture satisfactory by playing popular game in Vietnam such as kite flying and dacau with them.

Besides they guide us their laboratories, I was surprised because they have many kinds of expensive experimental machines such as HPLC, microscope and DNA sequencer. In addition, there was large space to store enormous books and a lot of computers in new library in Cantho University. Vietnam makes dramatic progress, I was apprehensive that Japan would be overtaken by Vietnam. However, although there are enough machines, few people can use them. I thought that Vietnam cannot have brought up human resources to use complicate experimental machine. I thought that Japan have to do not only helping fund but also sending human resources to teach knowledge and techniques for them. I could spend a very exciting time with sightseeing of water market and eating many delicious Vietnamese foods.

In University of Natural Sciences - HoChiMinh, we first introduced ourselves and our study like we had done in Cantho University. I made put my reflection to good account, I tried to explain background and technical terms and speech in easier English. As a result, I felt that they could understand than last presentation.

Next, we took charge of a group of students each of us and instructed experiment in them. The theme of this time was the purification of proteins. The contents were transfection the vector plasmid expressed luciferase into E.coli, and purification of expressed luciferase protein trough caram and detection with SDS-PAGE. The experiment itself was not difficult, but it was very hard to teach it to them because they had not been accustomed to the experimental manipulation and I couldn't make myself understood to them in my English. However, I didn't give up. I tried to repeat to communicate with them in English with some gesture over and over again. As a result, we could overcome the distinction of language between me and them, now we have interchanged E-mail each other. When we left the university, they presented the pendant that made be them to us. I was moved by them. In return, we introduce Japanese toys, such as beanbag and top, presented them.

The pleasure was so big which we could understand each other passed any troubles. Besides, I felt the importance of English to communicate with foreigner and got good confidence in my experience of stay in foreign country.

And in HoChiMinh, we could have a chance to visit AJINOMOTO Vietnam factory and talk with Japanese who work in Vietnam. That company have established immovable state and Vietnamese feel like “Japan=AJINOMOTO”. They said that they have tried to induce new technology for products to compete with Chinese fake products. But Chinese companies have developed their techniques as often as AJINOMOTO tried. I was surprised the technical progress of the emergent countries of Asia and feared that the state of Japan has been threatened. Besides, they noted the Vietnamese culture which they eat rare vegetables and rice, started the sale of only one mayonnaise in Vietnam and tried to sale furikake for rice. There is no confidence that they will be success because there are differences in food culture between Japan and Vietnam, however their faces are very brightened because they have constructed market from zero in foreign country, its language and culture is different from Japan. I was realized that it is how challenging thing it is to try new thing.

I passed this tour in Vietnam, I could expand my world view and learn that I can expand my possibility by repeating trying. I am convinced that the experience in Vietnam is help as a mental force when I will be faced with a difficult problem in future.



Report of the Engineer Training and Research Innovation Program (ETRIP) carried out at University of Natural Sciences and Vietnam National University-Ho Chi Minh in Vietnam

YAMAGUCHI Masamitsu
Professor
Department of Applied Biology

Outline of the program:

I joined Dr. Kamei and her graduate students at University of Natural Sciences (UNS), Vietnam National University-Ho Chi Minh on September 7, 2006 and stayed until September 13. For me it was the first time to visit Vietnam and I found that the Ho Chi Minh City is exciting with a lot of motorcycles running around the city without stop signals.

At UNS I gave two lectures. One is on the transcription factor DREF, a master regulator of the DNA replication- and proliferation-related genes in *Drosophila*. In this lecture, I also talked on the general background on the mechanism of transcription and DNA replication in eukaryotic cells. The other is on the development of *Drosophila* models for studying human diseases. In this lecture, I introduced *Drosophila* genetics and insect biotechnology such as the method for establishing the transgenic flies. I found that students in UNS are not so familiar with transcription, DNA replication in eukaryotic cells and *Drosophila* genetics. I could suggest that it is important to incorporate these fields of studies in educational programs in UNS. We also discussed on future collaboration with Dr. Tran Linh Thuoc and his graduate students.

After coming back to Japan, my graduate student NAGAI Rika who attended this ETRIP program with me was highly motivated to learn English. Her English was improved very much and moreover her experience in Vietnam resulted in writing her Master thesis in English.

On summary, I believe that this ETRIP program is highly beneficial for both students who participate in it and also to the host laboratories involved. I hope that the program continue to support interactions between laboratories in KIT and UNS. Finally, I would like to express sincere thanks to Dr. Tran Linh Thuoc and his graduate students for taking care of us in Vietnam.



**Report of the Engineer Training and Research
Innovation Program 2006 in Vietnam
(Cantho University and University of Natural Sciences -Ho Chi Minh)**

KAMEI Kaeko
Associate Professor
Department of Applied Biology

I and four Master course students, NAKAJIMA Satomi, MAEDA Atsushi, SUGIMOTO Masayuki, NAGAI Rika, visited to Cantho University (CTU) and University of Natural Sciences (UNS) of Vietnam from 30 Aug to 13 Sep, 2006 through the Engineer Training and Research Innovation Program. Prof. YAMAGUCHI Masamitsu joined us on 8th Sep. Our visit had two purposes; 1) dispatch education for Vietnamese students based on the agreement of International Exchange Program between each university and Kyoto Institute of Technology (KIT), 2) providing a practical opportunity of international communication in English to Japanese students of KIT.

In CTU, I had a lecture titled as ‘Study of malarial parasite’ for graduated student of Faculty of Science. Four KIT students introduced themselves and explained their studies. Vietnamese graduate students also introduced CTU and their studies. This was arranged by Dr. Le Viet Dung (a coordinator of agreement) and Dr. Dai Thi Xuan Trang. Dr. Dai Thi Xuan Tran had studied PhD study in KIT and is working as a lecturer in CTU. They gave us an opportunity to exchange Vietnamese students. KIT students and Vietnamese students enjoyed “da cau” (a kind of sports), and then communicated each other in cafe. Dr. Dai Thi Xuan Tran guided us to Khumer village. In the village, we visited to different temples, Khumer temple and Chinese temple. This experience was very interesting for us since we could see the quite different cultures, Khumer, Chinese, and Vietnamese in one small village.

In University of Natural Sciences, we offered the Lab work for Master course students of Department of Microbiology together with Vietnamese staffs.

The contents of experiment are as follows:

Expression and Purification of Recombinant Protein (Mal-luciferase : Fusion protein of His-tag, Maltose-binding protein and luciferase)

- (1) Expression of Recombinant Protein
Cultivate E. coli BL21(DE3)/pMal-luc. Induce the expression of Mal-luciferase by lactose.
Prepare SDS-polyacrylamide gel
- (2) Extraction of Recombinant Protein
SDS-polyacrylamide electrophoresis. Extract Mal-luciferase.
- (3) Analysis of Recombinant Protein
Analyze Mal-luciferase’s quantity by Bradford methods. Analyze Mal-luciferase’s activity by luminous reaction.
- (4) Purification of Recombinant Protein
Purification of Mal-luciferase by NiNTA column. Prepare SDS-polyacrylamide gel.

Vietnamese staffs of this experiment were Prof. Tran Linh Thuoc, Ms. Nguyen Thanh Thuy Nhien and Ms. Nguyen Thi Phuong Tam. Dr. Tran Linh Thuoc is a coordinator of agreement between UNS and KIT, and Ms. Nguyen Thanh Thuy Nhien had studied under my supervision in KIT for one year as a short

exchange student when she was a master course student, and is a lecturer of University of Natural Sciences. Under their advice, KIT students prepared the experiment, and demonstrated some techniques to Vietnamese students. I and Prof. Tran Linh Thuoc cooperated to explain the experiment; Prof. Tran Linh Thuoc explained gene technology, and I explained purification method of protein. However, since the plan of experiment was made just before we coming, KIT students had no time to practice the experiment in Japan. This must be improved for next.

After Prof. YAMAGUCHI Masamitsu and Ms. Dang Thi Phuong Thao joined us, Prof. Yamaguchi and I presented our own research to graduated students of Department of Biology. Ms. Dang Thi Phuong Thao is studying PhD study in KIT, and is also a lecturer of University of Natural Sciences. Furthermore, we discussed with Prof. Tran Linh Thuof for collaboration.

We also visited Vietnam Ajinomoto Company to look around the factory. Japanese engineers working in the company kindly explained the significance to work in foreign country to us. I think that KIT students learned a lot of things and got strong impression through talking with them.

I believe we contribute for Vietnamese students and KIT students had wonderful experience in Vietnam through this program. And this program is very significant for the international activity of KIT. I hope KIT to continue this program.



Report of the Engineer Training and Research Innovation Program in Thailand (Chulalongkorn University)

IDE Fumi
Graduate Student
Master's Program of Design Engineering and Management

1. The purpose of Dispatch Program

I visited Dept. of Image and Printing Technology in Chulalongkorn University with my supervisor Dr.Sato. The purpose of this program was to learn the sense of technical expert through to be a teaching assistance (TA) at foreign university. To achieve the aim of this project, during this visit, I assisted a class "Printing Technology" and supported some 4th year students of the department, and I visited printing company of overseas office to look around the process of printing and did a discussion with company persons. I had also a meeting about my research which put in collaboration with the university's team. In teaching assistance at the class, I tried to get ability of leadership of engineer through having a class on foreign company. And my visit on printing company, I know the present situation of Thailand's printing technology's present situation.

2. Chulalongkorn University

Chulalongkorn University is located at the city center of Bangkok. And it is one of the biggest and most famous universities in Thailand. Students in this university worked very hard and they learned top level education in Thailand. I visited the Department of Imaging and Printing Technology. In this department, students work about printing and photo imaging technology, so my research about colour concerned very much.

3. Teaching assistance

I assisted the class "Printing Technology" that a class of Dr. Aran Hansuebsai and supported the forth year student of the department. In this class, I did a presentation of my research in English. The participator was 20 forth-year students and 3 master-course students and 4 teachers (2 was another dept's teachers). In this presentation, I told about the research which I wrote on my Bachelor thesis and other related subject. After the class, I was asked some questions form students and we discussed about my research.

This presentation was my first time of it by English. In this experience, I felt my poor English and frustrated with that I cannot get through to foreign people. But the discussion and assignment from student and teacher worked for me very much. In my presentation, I knew it was very important the positive stance for communication rather than technique, so I thought that this experiment was very precious for me.

4. Visit to Thai company

I visited printing industry with Dr.Sato and Dr. Aran Hansuebsai. AKSORNSOBHON was the printing and publishing company which located in Bangkok city, and turn out magazine, books, poster, and so on. In this company, I observed the operation of printing (digital and offset), and heard about Thai printing industry from the companies managing director.

In this visit, I knew the importance of colour for printing industry. In Thailand, the design and colour of book's cover influence the sales of books. Especially in this company, it accepted orders from other company, they are careful about colour reproduction. In my research, I learned about the relationship between brand image and colour, I thought that my research will be able to contribute printing technology in the future.



A class 'Printing Technology' working as a teaching assistant

5. Research Project

I had some meeting about our research which carried out with Chularongkorn University team. To share the direction and the way of research, I told the Thai team about my past project and negotiated with them. In this meeting, we could become clearly about the research, and it was development for me to perform the project.

As the integration of this meeting, I wrote the abstract of international academic conference over some advice from Dr. Aran Hansuebsai and other teachers.

6. About my stay in Thailand

From this project, I could have some opportunity of talking with Thai students and Thai working people. I could study so many things from that activity, especially the appetite of learning and Thai women's social evolution, and also I knew the importance of international sense for engineer. Most of Chularongkorn University students were aggressive in study, and that was a good example for me to follow. And in university and companies, so many women working hard, and also so many female students study as university student. From this situation, I thought that women's social advancement would be more build up in Thailand.

Finally, I felt that to be international tech person, we have to understand about foreign company. My research have association with foreign culture very much, this program was very good experiment for me. This visit to Thailand was very short term, but I could learn so many things to be international engineer, and I could get some foreign friends. I want to be international person making use of my program in Thailand.



Discussion with department head Dr. Aran and his student



Printing engineering at printing company

	An enforcement summary
12/21(Thu)	Depart to Thailand
22(Fri)	The morning: Preparations for class The afternoon: I gave presentation at printing technology at the class of Dept. of Imaging and Printing Technology. The participant was 4 th year students (15 people), graduate students (4 people), and teachers (4 people). Dr. Aran Hansuebsai was in charge of this class.
23(Sat)	I discussed with Dr. Sato and 2 engineers who worked in print company.
24(Sun)	A holiday
25(Mon)	The morning: A meeting with Dr. Aran Hansuebsai and Dr. Sato. The afternoon: Making summary for AIC.
26(Tue)	The morning: Making summary for AIC. The afternoon: Discussion with a student.
27(Wed)	The morning: A meeting with Dr. Aran Hansuebsai, a graduated student and Dr. Sato. The afternoon: A meeting with Dr. Aran Hansuebsai and a 4 th year student.
28(Thu)	The morning: I visited a printing factory. Discussion about quality control of a color. The afternoon: I took guidance from Dr. Aran Hansuebsai.
29(Fri)	The morning: A meeting with Dr. Aran Hansuebsai, a 4 th year student and Dr. Sato. The afternoon: Discussion with a student.
30(Sat)	Return home

Brief Report of the Engineer Training and Research Innovation Program (ETRIP) carried out at Chulalongkorn University

SATO Tetsuya

Professor

Department of Design Engineering and Management

A master course student Ms. IDE Fumi and I visited to Department of Imaging and Printing Technology, Faculty of Science, Chulalongkorn University in Thailand through ETRIP, for two weeks, from 21st Dec to 30th Dec 2006. The purpose of the program was to contribute for undergraduate students of the university.

On the first day, we, Ms. Ide and myself, had a discussion with teaching staffs of the department how to assist a class and to support students. The head of the department Dr. Aran Hansuebsai and his colleagues requested us to contribute not only for the students of Dept. of Imaging and Printing Technology, but also the students of Dept. of Industrial Design in Faculty of Architecture. With the agreement in the meeting and the request, we had a class, a lecture, and some discussions/suggestions for bachelor researches of fourth year students and master course students.

The class was 'Printing Technology' given by Dr. Hansuebsai, Ms. Ide introduced herself to third year students and presented a little about colour science relating to printing technology. She also learned how the students were studying through Dr. Hansuebsai's teaching. We had two lectures for students and professors Dept. of Imaging and Printing Technology and Faculty of Architecture on 22nd Dec. The numbers of participants were 20 undergraduate course students, 3 master course students and 4 professors. One was about Ms. Ide's research, and another was my presentation titled as 'Colour Science and Technology'.

We also gave fourth year students many suggestions for their bachelor researches, and discussed a lot about teaching and researching with professors of Dept. of Imaging and Printing Technology, and



Photo 1 A discussion among Ms. Ide, Dr. Hansuebsai, and Thai students



Photo 2 Student works at Dept. of Industrial Design



Photo 3 Student works 'Package Design'



Photo 4 A visit to a Thai printing company



Photo 5 Colour check at the Thai company

Faculty of Architecture. Photo 1 shows a discussion among Ms. Ide, Dr. Hansuebsai, and Thai students. Photos 2 and 3 show packaging design works the students of Dept. of Industrial Design in Faculty of Architecture.

Dr. Hansuebsai asked us to visit a printing company, and we saw colour managements including colour quality control at the company on 28th Dec. Photo 4 shows the company director Mr. Santi, Ms. Ide, a teacher of Chulalongkorn University and Dr. Hansuebsai. Photo 5 shows the colour check at the company. The company was publishing some colourful books for female readers. The Thai printing company was asked to publish with high colour quality such as colour match property.

I believe that we could contribute for the Thai students and Ms. Ide learned a lot of things through this program. In addition, our program will contribute for the further cooperation between Kyoto Institute of Technology and Chulalongkorn University. I think that ten day visit is not enough to contribute much for the education and research, but also for the education and English skills of Japanese student. Hopefully, the program should be continued coming several years for students of both universities and the cooperation.

Reports from Participants

Chapter 2.

Research Study under Ex-campus Supervisor in Partner Institutes

- Yeungnam University p.38
- Technical University of Catalonia p.46
- North Carolina State University p.51
- St. Georges University of London p.57
- The Ecole des Mines de Douai p.61
- University of California, Davis p.63
- Ryerson University p.66

Report of the Engineer Training and Research Innovation Program in South Korea

– Season Reminded from Colour in South Korea – (Yeungnam University)

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Division of Design Engineering and Management

I would like to report the outline of my research at Yeungnam University of South Korea, which carried out from 5th to 18th November.

1. INTRODUCTION

We associate various things from colours. In this study, the seasons associated from colours were investigated. One hundred ninety nine colours of PCCS colour system were used. South Korean subjects participated in the experiment to associate the season. The purpose of this study is to know the colour cognition, especially about the effect of season to colour cognition.

2. EXPERIMENTAL

In the experiment, subject was asked to associate a season from a colour of PCCS 199c colour chip system. The season judged were spring, summer, autumn, winter and not associated. For example, ‘spring’ for ‘lt2: pink’, and ‘autumn’ for ‘dk4: brown’. The samples were viewed by observers in a viewing cabinet illuminated by a light source approximating the D₆₅ illuminant. A total of 30 South Korean participated. Their ages ranged from 21 to 36 years old.

3. RESULTS

The raw data in terms of seasons for each colour were counted and calculated the percentages for all the colours of PCCS 199 colour chip system. Table 1 shows ten high-ranking colours of the answer rate of each season.

The seasons reminded from tone were given in Table 2. In each tone, it is understood that there is a typical season. “Spring” of pale, light, and bright. “Summer” of vivid. “Autumn” of dark and dull. “Winter” of dark grayish. These are especially remarkable one.

Table 1 Ten high-ranking colours of the answer rate of each season

Spring				Summer				Autumn				Winter			
tone	hue	(%)	sample	tone	hue	(%)	sample	tone	hue	(%)	sample	tone	hue	(%)	sample
b	8	93.33		V	18	100.00		dk	4	93.33		dkg	18	86.67	
b	10	93.33		V	17	96.67		BR	4	93.33		Gy	2.5	86.67	
V	8	90.00		lt	18	93.33		d	4	90.00		g	18	80.00	
lt	8	90.00		b	16	90.00		BR	2	90.00		dkg	8	80.00	
PI	1	86.67		V	15	86.67		BR	3	90.00		dkg	20	80.00	
lt	6	83.33		b	18	86.67		dk	6	80.00		Gy	5	80.00	
lt	10	83.33		lt	16	80.00		d	2	80.00		Gy	3.5	80.00	
V	7	80.00		b	14	70.00		d	6	80.00		Gy	3	80.00	
p	2	80.00		sf	16	70.00		d	8	80.00		N	6	80.00	
p	8	80.00		V	16	66.67		FL	6	80.00		N	7	80.00	

Table 2 Season associated from tone by South Korean and its percentage

Tone	Spring	Summer	Autumn	Winter	Not reminded
vivid	30.10	43.41	12.21	9.99	4.30
deep	14.44	28.06	38.89	13.61	5.00
dark	2.78	9.17	49.44	30.83	7.78
pale	49.72	24.44	4.72	14.17	6.94
light	51.67	31.67	9.44	3.33	3.89
bright	46.67	37.22	8.06	2.78	5.28
soft	29.72	19.44	33.33	9.17	8.33
dull	7.22	13.06	52.78	19.44	7.50
light grayish	17.45	15.51	22.71	32.13	12.19
grayish	2.22	2.22	45.00	40.83	9.72
dark grayish	1.11	1.67	16.94	66.67	13.61

Table 3 Season associated from hue by South Korean and its percentage

Hue	No	Spring	Summer	Autumn	Winter	Not reminded
red	2	26.36	13.94	36.36	17.58	5.76
reddish orange	4	29.39	11.21	40.00	13.03	6.36
yellowish orange	6	32.42	7.58	40.61	12.73	6.67
yellow	8	38.18	5.76	34.55	15.15	6.36
yellow green	10	45.76	16.67	24.24	8.18	5.15
green	12	33.33	34.24	15.76	11.21	5.45
blue green	14	20.00	40.30	16.36	13.94	9.39
greenish blue	16	6.67	46.67	18.48	20.61	7.58
blue	18	2.73	42.73	11.21	36.67	6.67
violet	20	4.23	15.41	14.50	50.76	15.11
purple	22	11.21	4.55	32.42	41.52	10.30
red purple	24	26.06	7.88	35.15	24.24	6.67

Table 3 shows the seasons reminded from hue. It is understood that there is a typical season by each hue as with tone. For example, “Spring” of yellow green. “Summer” of blue green and greenish blue. “Autumn” of reddish orange. “Winter” of violet.

Figure 1 shows the PCCS 199c samples in CIELAB space. In figure 1, the circle is the entire samples and the square shows the samples of the answer rate 50% or more. The answer rate of the sample

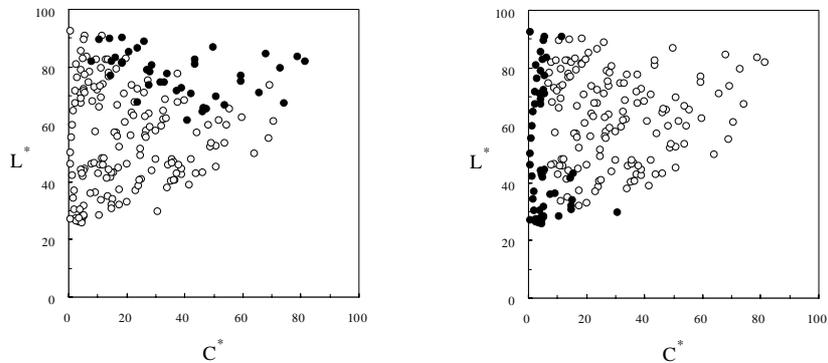


Figure 1: CIELAB co-ordinates of PCCS 199c samples plotted on L^* vs C^* diagrams. Spring (left), Winter (right).

with high brightness rose in “Spring”, and the answer rate rose in “Winter” regardless of brightness compared with the sample with a low chroma.

In South Korea, it has been understood that there is a feature in the season reminded from colour about each tone and each hue. Moreover, brightness and chroma were related to the season reminded, too.

In fact, it is thought that the season reminded from color in South Korea influences the complexity by the tone, hue, brightness, and the chroma, and was created.

4. Experience of study abroad in South Korea

This time, though I did the communication in English, it was possible to speak mutually only in English of an easy content. I felt a more English proficiency necessity for the conversation and communication though it was felt a little strange to talk in English with the person in country next in same Asia.

It was a short period of two weeks, but I was able to touch a different culture and it became a good experience.

**Research carried out at the Yeungnam University, School of Textiles
through the Engineer Training and Research Innovation Program (ETRIP)
– Influence to makeup of knowledge about a fashion and textile –**

NAKAZAWA Hiroshi

Graduate Student

Master's Program of Design Engineering and Management

1. Introduction

Cosmetics become more and more important in a fashion because cosmetic consciousness is globalizing. It is because information-technology enables to have come to adopt a foreign fashion easily. However, I think that cultural influences of the country affect strongly preference of the fashion products for example cosmetics and textile. Therefore I carried out investigations about consciousness, sense of colour and purchasing situation about a fashion in Korea and its culture factor.

2. Method

I took two types of questionnaires about cosmetics. A purpose of these investigations is to clarify consciousness and sense of colour about fashion, and then I find out relationships between that purchasing situation and its factor of culture. I focused on purchasing action and investigated it because purchasing action reflects personal idea and culture. And I think it creates new culture.

The questionnaire 1 investigates the usage of cosmetics. I asked about the use and purchasing situation about basic cosmetics and makeup cosmetics. On that occasion I made it to measure the influence that an information contact channel gave purchasing decision making. In former study, I understood that the important source of information to understand cosmetics in Korean is different from Japanese. Information at store and from a salesperson is important in Japan, on the other hand information from friends or Internet-site as word-of-mouth is important in Korea for decision making of the cosmetics purchase. I must understand Korean lifestyle to investigate a background of its different purchasing. The questionnaire 2 investigates Korean lifestyle. A lifestyle is a factor of the important outside-influencing a personal purchasing action. I investigated how Korean people obtain information of cosmetics.

I get a characteristic about predilection for a fashion product from these two investigations. I have surveyed 127 women students in Yeungnam University. They were from 20 years old to 29 years old.

3. RESULTS

These 4 [(1) ~ (4)] became clear.

- A good evaluation is much more of some help than a bad evaluation when they hear both word-of-mouth information (82.5%) and internet-information (63.4%). (1)
- In the case of collecting information to make reference (collecting information that is not always connected directly with the purchasing), a topic tends to good evaluation in word-of-mouth communication (84.5%) and a topic tends to bad evaluation in internet-information (54.5%). (2)

The reason is thought as follows.

Information from a person close to them is so believable in despite of good evaluation or bad evaluation that refers to it. In the case of internet-information, they are apt to think word-of-mouth communication

to be untrustworthy because of its anonymity. That is why they choose information more carefully than a person close to them when the purchasing and mere reference. Furthermore, it is thought that bad evaluation is easy to be referred to because the information is used carefully for a product and critical examination.

Table 1. Information from person close to them

	evaluation with people		consider with people	
	sample	%	sample	%
good evaluation	87	68.5	85	66.9
bad evaluation	16	12.6	18	14.2
Sum	103	81.1	103	81.1

Table 2. Information in internet

	evaluation with people		consider with people	
	sample	%	sample	%
good evaluation	46	36.2	64	50.4
bad evaluation	55	43.3	37	29.1
sum	101	79.5	101	79.5

Relations between contact frequency to information and expense, the purchase and the possession tell us the following things.

- A person who has much more contact to information shows many expense, the purchase and possession. (3)
- A person who has much more contact to internet-information shows only high possession, and the others are unrelated. (4)

Table 3. Analysis of correlation

		expense		purchase		possession	
		basic	make up	basic	make up	basic	make up
contact to close-information	Pearson Product Moment	0.437**	0.373**	0.427**	0.487**	0.454**	0.217**
	significance probability	0.000	0.000	0.000	0.000	0.000	0.036
	N	101	94	111	99	114	94
contact to internet-information	Pearson Product Moment	0.103	-0.083	0.076	0.043	0.278**	0.394**
	significance probability	0.307	0.426	0.430	0.671	0.003	0.000
	N	100	94	110	99	114	94

** : significance probability 1%

Because of above analysis word-of-mouth communication is more positive and is easy to be received information, and then a person who has much frequency buys cosmetics moderately and has many. Thus, word-of-mouth communication is better rapid-acting information than internet-information. It is thought that they purchase cosmetics after collecting information carefully by Internet because it is a high involvement product.

Information Technology affects purchasing decision rather than these not only our increased choices of fashion. Increase of choices lets us make the nation color clear more ever. Furthermore, I deepen a study.

4. Experience of study abroad in South Korea

I had a language barrier before a study. I had communication with a student of Yeungnam University in English. When we corrected the questionnaire, we were not able to have a mutual understanding, but each other's efforts overcame it.

In this way, I got a lot of things in other side of my study. I learned understanding each other and being in friendly rivalry from this very significant two weeks.

Date	Summary
2006/11/1	I arrived at Daegu at night.
2006/11/2	I had a meeting about my research with Professor Koo, Associate Professor Sakamoto at Yeungnam University, School of Textiles. The content was chiefly a confirmation of the outline of the research 1.
2006/11/3	It holds a meeting by the same member as the day before and Assistant Professor Kim. It chiefly talked about the environment that studied, and researched.
2006/11/4	I had a meeting with Associate Professor Sakamoto about questionnaire 1. And, the postgraduate guided the university for us.
2006/11/5	I had sightseeing at Deagu city with two graduated students and Associate Professor Sakamoto. We went to department stores and saw many items peculiar to Korea.
2006/11/6	I began the preparation for a concrete research. And, I talked about the questionnaire form with Professor Koo.
2006/11/7	I collected questionnaire 1 (127 females), and I started grouping of data and looking for the analysis method.
2006/11/8	I investigated cosmetic shops surfaced road in Daegu city to compare Korean Cosmetic shop with Japanese.
2006/11/9	It holds a meeting with Associate Professor Sakamoto about questionnaire 2. It chiefly talked about the environment that studied, and researched.
2006/11/10	I had a meeting about my research with Professor Koo, Associate Professor Sakamoto at Yeungnam University. The content was chiefly a confirmation of the outline of the research 2.
2006/11/11	I had sightseeing at Busan city with two graduated students and Associate Professor Sakamoto.
2006/11/12	I was guided around Daegu city to study Korean culture.
2006/11/13	I investigated department stores in Daegu city to compare Korean Cosmetic shop with Japanese.
2006/11/14	I collected questionnaire 2 (127 females), and I started grouping of data and looking for the analysis method.
2006/11/15	Arrival at Japan.

Brief Report of the Engineer Training and Research Innovation Program (ETRIP) carried out at the Yeungnam University

SAKAMOTO Kazuko

Associate Professor

Department of Design Engineering and Management

1) Mr. YASUDA

A master course student Mr. YASUDA Shohei conducted research at Yeungnam University, School of Textiles through ETRIP, for 14 days, from the 5th to the 18th of November 2006. The purpose of the program was to take part in a collaborative research project.

I also visited Yeungnam University, from the 1st of November to the 9th of November.

Mr. Yasuda was conducting research at the School of Textiles in Yeungnam University. His particular research involved activities looking into the possible connections between a persons sense of colour in relation to the changing seasons.

To be more precise, we associate various colours with certain things. In this study, the colours associated with particular seasons were investigated. One hundred and ninety nine colours of the PCCS colour system were used. South Korean subjects participated in the experiment to associate the seasons. The purpose of this study is to understand colour cognition, especially colour cognition in relation to changing seasons.

After this, Mr. Yasuda attended the Japan and Korea International Symposium at Seoul National University. He had the opportunity there to audit reports from well-informed researchers working in Japanese and Korean enterprises and universities. It was very helpful in learning much of the latest information available in research.

During his short stay, Mr. Yasuda mainly surveyed and performed experiments, so that he could compare the results against his master's thesis. It was no small task having to survey and perform experiments while at the same time having to have ample time for communication with the local students. I believe that he could reach his goal only because of his determined effort. Further more, he built up a trusting relationship between the hosts and the guest, which is a real advantage for the other students who will study there in the future.

In addition, the 2-weeks of association with many kinds of Korean students helped him not only to understand them better, but also deepened his understanding and appreciation for Korean society and culture in general. This understanding encouraged him to broaden his outlook on society with a desire to participate more in the global community. Therefore, this experience has been a tremendous encouragement and enlightening experience for him all around. .

2) Mr. NAKAZAWA

A master course student Mr.NAKAZAWA Hiroshi conducted research at Yeungnam University, School of Textiles through ETRIP, for 14 days, from the 1st to the 14th of November 2006. The purpose of the program was to take part in a collaborative research project.

I also visited to the Yeungnam University, from 1st of November to the 9th of November.

Mr.Nakazawa was conducting research at the School of Textiles in Yeungnam University.

His particular research involved activities regarding fashion, design, and chromatics.

To be more precise, he was looking into the impression and effect that colour and design have on people in relation to the fashion and cosmetics industries. Moreover, he conducted various experiments in order to assess what features of colour and design have the most impact on peoples' buying behavior and attitudes. At that time, he also collected data through surveys, monitoring and interviews to comprehend the perception gap and differences in image appraisal between Japanese and Koreans. He even coded the data during the study period, and analyzed it after he returned home.

After this, Mr.Nakazawa attended the Japan and Korea International Symposium at Seoul National University. He had the opportunity there to audit reports from well-informed researchers working in Japanese and Korean enterprises and universities. It was very helpful in learning much of the latest information available in research.

I think that he was able to conduct his research activities with a more global perspective. This was possible by making country-by-country comparisons. To do this, he learned the local language and cultural background, and then he reflected what he had learned in the detailed surveys.

Mr. Nakazawa mainly was involved in studying marketing, but he also was involved with the study of colour engineering and design, and supported the interdisciplinary studies of Professor Koo at Yeungnam University. By means of this, he could increase his education and skill in relation to design engineering and management. This experience broadened his outlook and gave him stronger motivation and capability for his future studies. I have great expectations for his future accomplishments.

90 days in Technical University of Catalonia

MATSUI Yoshiaki

Graduate Student

Master's Program of Design Engineering and Management

0. Introduction

This article is written about my stay in Technical University of Catalonia from middle of September to the middle of December. I was in a laboratory of the Professor Valldeperas, who is the Director of INTEXTER (INstitute of TEXTile research and industrial cooperation of TERRassa). INTEXTER is the research institute of Technical University of Catalonia.

1. Catalonia

In the beginning days of my stay, I heard it was said “We are in Catalonia”

“Yes, but we’re in Spain.” I asked.

“But we’re in Catalonia” That was the fact. That was the answer.

I stayed in Terrassa, where is located at the place 40 minutes away by train from Barcelona, Spain. There, in Terrassa, I stayed 3 months and I did some part of my research.

In this region, people don’t speak Spanish. They speak ‘Catalan (Catalonian language)’ In actual all the inhabitant of this region studied and they can speak it. But they want to speak Catalan. There is also some people don’t want to speak Spanish. Including the era of Spanish civil war, the people of power forbid people in this region to speak Catalan in many times. Is this backlash against it? There are some people who want to expand the regional autonomy, and there are also who want the region to be an independent nation. It is the part, however, it is the indication of identity of Catalan people. Catalan -the language of this Catalonian region- is derived from Latin as in the case of Spanish, Italian, and French. Therefore Catalan is similar to those language. Since Catalonia is adjacent region with France geographically, Catalan may be similar to French and Spanish. The difference between Catalan and Spanish which I feel is pronunciation. Spanish has 5 vowel sounds just as Japanese, so it is not difficult for us. However, Catalan has 7 vowel sounds. The last consonant of a word is not pronounced in French. This is the similarity between two languages. The other side, since spelling in Catalan is similar to Spanish -also similar to French- it is not too difficult. It is difficult to use Catalan therefore reading is less difficult than writing, speaking, listening.

I have experiences in many times that shop assistants talk to me in Catalan when I buy or order something. In Barcelona, since there are many foreign tourists, some shop assistant talks to me in English. But in Terrassa, people never talk to me in English. At the supermarket I often was announced the price in Catalan. When I don’t understand it, the clerk announces me again in Spanish. Actually almost people can speak the both language, there is no problem to live. But for the people who was prohibited to speak



Figure 1: Terrassa campus of Technical University of Catalonia

Catalan, speaking their own language is to insist themselves, and it may be a pleasure. As a result, I think, to succeed socially in Catalonia, it is necessary to be able to use Catalan. Additionally, General Franco imposed dictatorship until 25 years. These two subjects gave me big impact. Because Japan have been one state for long time ago, and never mixed the races.

2. Language

Spanish people do not speak English well, as the case of us. Thus you can live without Catalan skill, but it is difficult without Spanish skill. I am able to speak Spanish. Because I have an experience that I stayed 10 months in a city of Spain named Santander. Then I learned Spanish. In first days, since I couldn't speak Spanish, and I was speaking unskillful English. 3 months later, however, I learned to be able to speak Spanish without using dictionary in my daily life. This dispatch, I went to Spain after long time separation and I felt so frustrated because Spanish words didn't come out from my mouth. I needed 1 week to be accustomed to Spanish. I had been forgotten a mount of words and expressions but I got little by little. Although I forgot much Spanish knowledge, I had feeling of use of Spanish. This feeling is the essential factor to speak foreign language. I thought I had luck that I have been notified after get back to Japan about my Spanish skill. One is that the city I stayed 7 years ago was the region where people speak fine Spanish. And another one is that I have met with my host family which they teach me Spanish patiently. It gave me the competence to work in Spain.

3. Research

About my research, the most important aim of this dispatch is to send out 2 questionnaires. These questionnaires is asking about the impressions of color, the standards and the tastes of purchase. The questionnaires were written in Japanese, of course, then I had to translate that first. The translation was done referring to Japanese version and English one. I was helped with what we asked words selection and grammatical rules by professor and other research workers.

In the first questionnaire it asked appropriate adjectives for evaluate home electric appliance, apparel products and car, and the points that emphasize on when purchase them. Also it asked appropriate colors and the colors which you want for home electric appliance. It asked adjective that associate with only color name without any information about its form. Finally it asked to give associated words with 5 of the best-known brand all over the world. The second questionnaire asked similar question to the first, but it asked more concretely and more profound. More specifically, it asked appropriate color, inappropriate color, and emphasized factor at the point of purchase for home electric appliance which has resulted from the first questionnaire. It also asked how deal when what you want is not exists in that shop, can you buy if only the color name is informed, and so on.

The purposes of those questions are to know how much the color is emphasized and how the people think about color information at the point of purchase. Meanwhile, these questionnaires 1, 2 has been held with only the color name, it means we haven't showed color sample chip, then the difference exists between the colors that each individuals imagine from the color name. And it is possible to affect the result. Therefore, it is necessary to consider it. Explaining the result, as emphasized factors at point of purchase for home electric appliance, the function was the highest rate and the price was the second. Considering this result and results of other questions, the balance between the function and the price is the most important factor. For apparel products, the price was the most emphasized, followed by the shape and the color. It indicates design is emphasized as well as the price. For car, also the price is the most important factor, however the function and the material were placed lower rank. The factor following the price is the brand. It presumes that the complexity of function and material of the car makes the difference in it obscure and the brand is used to judge the function and potential. The out come of these research and furthermore it will be compared with the similar survey in Japan or other countries and analyzed more in

detail. Then it will be made a presentation at appropriate occasion.

4. Excursion

I visited to the cities around Barcelona at the end of the week. I realized Spanish culture keenly, and absorbed it by five senses by such visiting many sights. To experience completely different culture notifies me the existence of different world, different thought. It also brings me to know about Japan and its culture objectively. There is what could be seen by only looking from exterior of own country. The most impressive sight was Montserrat in this stay. It's located a little less than one hour apart from Barcelona. Moreover, a monastery (Basilica), residence for monks and a hotel for pilgrims are adhering to the wall of rock. It can be climbed up from the mountainside where buildings are situated to the top of the rock by the cable car. The vista was marvelous.

It could be seen wonderful view from the top of the mountain where you can climb walking from a cable car stop. The altitude of the highest point of mountain is over 1200 meters and there is no higher mountain, then you see far even Mediterranean Sea. The series of rugged oddly shaped rock outcroppings are dynamic, powerful, and they have even feeling of saltation. Snaky surrounding plateaus are looked like it was been drawn contour lines by bush, grass and appeared stratum. Then it is seems the plateaus stand out and stereoscopic. When you have an opportunity to visit to Montserrat, you should choose clear and sunny day.

5. Conclusion

In Barcelona, I visited many museums. Since I study about color emotion, I usually watch cityscape, buildings, and interior design. Cityscape color is composed by the colors of exterior walls and roofs of buildings, the colors of leaves and trunk of street tree, and other factors. The impression and the color of Spanish cityscape is quite different from Japanese it. When I realized that the color emotion and the sense of season of Spanish people make this difference, I realized that seeing cityscape is also study.

This stay was a dispatch to a Spanish university, I usually spoke Spanish. Therefore, my English skill got worse rather than improve. However, to collect data for research, knowing many people and touching their thought have an enormous value. In closing, I want to appreciate to be given an opportunity to stay in Spain, and to have been taken care by the professor and laboratory's staff.



Figure 2: With the members of laboratory



Figure 3: Basilica and the rock of Montserrat

An enforcement summary

9/17	Arrival at Barcelona.
9/18	Moved to Terrassa, Technical University of Catalonia and greeting. We were introduced the laboratory and had a meeting about my stay.
9/19	Meeting about my study.
9/20	We, Dr.Sato and me, meeting in Barcelona.
9/21~10/14	Translation of questionnaires. I translated to Spanish, and asked to help to correct the words and grammar.
10/15~11/9	Continue my work which demonstrate colour emotion, I had done in Japan. Revise of display part, improve of user interface.
11/10~12/1	First questionnaire was done. With cooperation of professors, I handed out the questionnaire sheets in some classes, and asked students to fill it in. I put all the data into the computer and summed it.
12/2~12/14	Second questionnaire was done, and was put all the data into the computer and summed it. In addition, I participated in a class held once in two weeks, named as “colorimetry”.

Brief Report of the Engineer Training and Research Innovation Program (ETRIP) carried out at Technical University of Catalonia

SATO Tetsuya

Professor

Division of Design Engineering and Management

A master course student Mr. MATSUI Yoshiaki researched at INTEXTER (Instituto de Investigación Textil y Cooperación Industrial) of Technical University of Catalonia (UPC: Universitat Politècnica de Catalunya) in Spain through ETRIP, for three months, from 17th September to 15th December 2006. The purpose of the program was to take part in a collaborative research project.

I also visited to the Technical University of Catalonia from 18th Sep to 20th Sep, for three days. On 18th Sep, we, Mr. Matsui and myself, had a discussion with Prof. Josep Valdeperas, Prof. Manuel Lis and their secretary Ms. Marissa Anglarill. As we had already negotiated about the research through e-mail before our arrival, the discussion was done smoothly, but changed a little. The title of Mr. Matsui's research project at Technical University of Catalonia was decided as 'Cultural difference on colour marketing' and 'Analysis of season reminded by colour in Spain'.

During my visit, we had a few meetings and prepared some research materials for Mr. Matsui's research. And he had a lot of Spanish/English communications with professors and students of Technical University of Catalonia. When they were having a communication including our research discussion, I tried not to disturb them so much for his Spanish/English mastering. Mr. Matsui can speak not only English, but also Spanish, because he had studied in Spain for 10 months through high school exchange program around 5 years ago. Actually, he was communicating with Spanish professors and students in Spanish/English without any communication problem.

I left from Spain and moved to Leeds of England on 21st Sep for JSPS fund (*kakenhi*) project. After my departure for England and back to Japan, he kept researching step by step and he obtained some interesting results. And he is keeping to research at Kyoto Institute of Technology. The details are written in his report.

With the research and its results, Mr. Matsui will have a poster presentation (already accepted) about the results of our collaborative project with the joint names of Spanish professors at an international conference AIC'2007 held in China on 12-14th July 2007, which is organized by the International Colour Society.

I believe that we could make strong reliance among Mr. Matsui, Spanish professors, and me, and also Mr. Matsui learned a lot of things through this program. In addition, our program will contribute for the further cooperation between Kyoto Institute of Technology and Technical University of Catalonia. I think that three months research is not enough to carry out much, but also for his Spanish/English skills. Hopefully, the program should be done in the next several years for students of both universities and the cooperation.

Brief Summary of the Project (North Carolina State University)

Project name:

Integrity Monitoring of Structural Joints Using MEMS Gyroscopes

Dispatched student:

KOBASHI Shuhei,
Division of Mechanical and System Engineering (Master's Program),
Graduate School of Science and Technology

Partner institute:

Department of Mechanical and Aerospace Engineering
College of Engineering
North Carolina State University

Ex-Campus Supervisor:

Prof. Fuh-Gwo Yuan

Term of dispatch:

From October 1, 2006 to December 19, 2006 (80 days)

Dispatched supervisor:

MASUDA Arata
Department of Mechanical and System Engineering

Term of dispatch:

From November 10, 2006 to November 15, 2006 (6 days)

Outline of the project:

The purpose of this joint project was to extend the design of the wireless smart sensors which had been developed by Prof. Yuan's lab, to combine them with our algorithms of the integrity monitoring of structural joints based on the measurement of angular rate. Before the visit, we defined the primary goal of this ETRIP 2006 project for the dispatched student, Mr. KOBAYASHI Shuhei, as to design and develop an extension sensor board to connect with a wireless sensor unit that was also to be manufactured by him with the collaboration of graduate students in Prof. Yuan's lab.

He successfully made an extension board and a wireless sensor unit, and brought them back to our lab. Unfortunately, we didn't have enough time to test and evaluate the wireless board, but we believe that this prototype will lead us to further collaboration with Prof. Yuan's team in the field of structural health monitoring and wireless sensor networks.

A report on the Engineer Training and Innovation Research Program (ETRIP) (North Carolina State University)

KOBASHI Shuhei

Graduate Student
Division of Mechanical and System Engineering

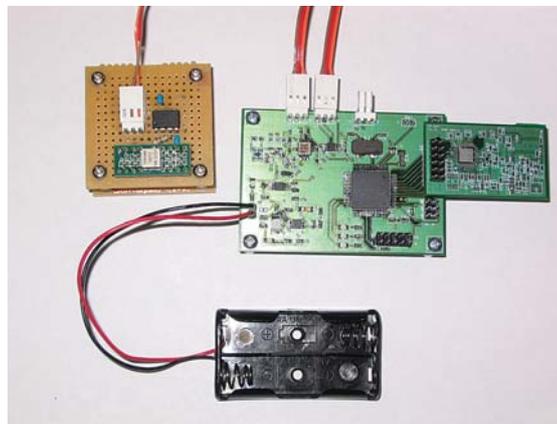
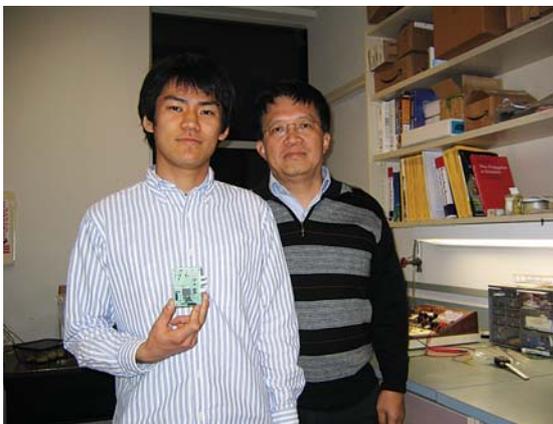
Summary

This is a report about what I researched, experienced, and felt during the 3-month stay from Oct 2006 to Dec 2006, at North Carolina State University (NCSU) in the United State of America. I had a plain research task: design and fabricate a wireless sensor unit (WSU), and bring it back to my laboratory in Japan to use it as a platform for structural health monitoring (SHM).

Research summary

At my Lab in Japan, we proposed a damage detection method for structural joints based on the change in the rotational flexibility. The previously proposed damage index based on the local flexibility index (LFI) is modified to define a new damage index that can be evaluated only using local information measured in the vicinity of the targeted joint. As a result, a modal-based, simplified and practical algorithm to evaluate the local bending flexibility of structural joints employing the measurements of angular rate is presented. The proposed algorithm includes a potential advantage when embedded in the wireless sensor network environment. Therefore, we planned to embed the proposed algorithm in a wireless sensor unit. Fortunately, we had a relationship with the laboratory at NCSU where can design and fabricate a wireless sensor unit. So I went there to study and make it.

I'd belonged to the Structures and Smart Material Laboratory at NCSU. The laboratory is dedicated to the development of smart structure technologies for the next-generation of aerospace, mechanical, and civil structures. To advance integrated vehicle health management (IVHM) as a viable structural asset management technology, students and faculty are engaged in the design of wireless sensor networks for passive and/or active sensing. Other laboratory research thrusts include the signal processing and damage diagnosis and prognosis algorithms, energy harvesting techniques.



Wireless sensor unit is composed of software part and hardware part. The hardware design of the wireless sensor unit is partitioned into three subsystems: the sensing interface, the computational core, and wireless communications. I'd already made the sensing interface in Japan. So what I had to do during my stay at NCSU was to discuss, design, and complete the fabrication of the computational core, and wireless communication system and learn about the software design of wireless sensor unit.

Actually, what I did in my terms of my research work throughout this stay was like the following.

- Learn and understand about the computer codes that determine the act of the WSU.
- Discuss the design of the print circuit board (PCB) with students and advisor at NCSU, solder the appropriate components on the PCB, and accomplish the hardware design of the WSU.
- Debug software and hardware of the WSU.

Daily life in a foreign country

At the laboratory, there were only Ph-D students who were all Chinese except a graduate student. Usually I discussed and asked to the Ph-D student who was the research assistant for me. I'd been in the United States, so it's obvious that we use English for conversation. Most people at my laboratory were not a native speaker. Not fluently but all of them could speak well, though, except me. I had already known, and it wasn't new for me, really, but I rediscovered the desperate need of oral skill of English for international communication from this stay. I felt chagrined when I couldn't response immediately even if I could understand what they were talking about.

Not only from researching with Internationals but living in a foreign country, I'd learned a lot of new things. Some of them were things that I had already experienced, and weren't really new, but that had never perceived before. And I hadn't perceived them because I had become accustomed to them. I realized: struggling in a foreign country will enlighten ourselves, and I convinced it from this 3-month stay. Therefore, I would like to tell loud and clear that this program is great! Definitely it was a wonderful and precious experience for me.

United States is generally known as a country that accepts many Internationals. Therefore, we could easily find out them wherever also at the University. The University supplies various English classes: English as a Second Language (ESL) classes. Furthermore, it's free.

I took these ESL classes to improve my English for about 3 months. When the first time I went to my class, I electrified by the fact that definitely all Internationals who I had met at the classes had spoken English so well. None of the Internationals has the same back ground. There is no tacit approval, and it was impossible to figure out what they are thinking, feeling, etc. without telling, asking, and listening. So I tried not to hesitate and tried to express myself. Actually, I didn't have any classes except ESL classes, so it was a precious time and, really, excited for me to having a communication with other Internationals. At my ESL classes and in daily life, I noticed that especially Chinese and American people were not afraid of making mistakes. Maybe this doesn't go for all of them but it was a very interesting observation for me. I felt strongly that I should emulate that kind of behavior.

From my 3-month stay, I realized that speaking is the most efficient and rapid way to improve English especially with native speakers.

Acknowledgement

I'd like to take this opportunity to express my appreciation to all my advisors Professor Fuh-Gwo Yuan, Associate Professor MASUDA Arata (KIT), Ph-D students Liu Shuntao, Wang Lei, Liu Lei, and Zhang Feng for their kind support, help, and advice during the 3-month stay at North Carolina State University. And I would like to gratitude to the Office of International Planning Division.

Schedule of the ETRIP

Date	Summary
Oct 1, 2006	Arrived at Raleigh.
Oct 2, 2006	I had a meeting with Dr. Fuh-Gwo Yuan, and Ph-D students Liu Shuntao, Lei Liu to confirm my task and discuss about the 3-month schedule. Especially what I need to do and at least what I'll accomplish during my stay. We set our goal.
Oct 3, 2006	I discussed with Mr. Liu about the detail design of print circuit board. I received the computer codes about the software part written in C++, C. I started to figure it out. And also I started studying about Windows Programming that I'd never studied before.
Oct 4, 2006 – Nov 10, 2006	I was studying and trying to figure out the codes. And also modifying some codes. Meanwhile, I was studying and trying to get the outline of Windows Programming at least. In addition, I was collecting questions and asking them to Mr. Liu.
Nov 11, 2006 – Nov 13, 2006	I had a meeting with Dr. Masuda. We decided to complete the rest of the sensing interface that he brought during his stay. We also tried to make a simple experimental setup.
Nov 14, 2006 – Nov 24, 2006	I kept studying about the codes. Meanwhile, I was practicing the hand soldering. The components supposed to be on the print circuit board were so tiny, so I definitely had to practice before put it on the board. In addition, I was waiting the components for the wireless sensor unit.
Nov 25, 2006 – Dec 17, 2006	I was soldering the components on the print circuit boards to finish the hardware part. It doesn't take so much time to be done, though we had some mistakes so I couldn't finish this part so smoothly. We discussed about what need to do after I came back to Japan to complete the wireless sensor unit.
Dec 18, 2006	Departed Raleigh.
Dec 19, 2006	Arrived at Japan.



A Brief Report on the Fruits of ETRIP 2006 Project with North Carolina State University

MASUDA Arata

Associate Professor

Department of Mechanical and System Engineering

Summary of KIT-NCSU relationship

North Carolina State University (NCSU) is a member of the University of North Carolina system, the first state university in the United States and now a multi-campus university system composed of 16 institutions. It has a historic strength in agriculture, textile and engineering, so sometimes I feel a sort of similarity to KIT although the size of the campus is so different.

Our relationship with NCSU began in 2000, when I visited there for a year as a visiting scholar. My colleague Prof. Noori, former Head of the Department of Mechanical and Aerospace Engineering (MAE), supported and supervised my stay that led to strengthening of the collaborative relationship between NCSU colleagues and us in the field of smart materials/structures and structural health monitoring. Our mutual relationship was enhanced by signing an inter-school academic exchange agreement and accompanying memorandums in 2003. In 2004, one of our doctoral students spent one year under the supervision of Dr. Seelecke to learn his constitutive modeling method of shape memory alloys and to pursue the possibilities of seismic applications of shape memory alloys. In 2005, we extended our relationship university-wide, enabling the exchange of doctoral students between the two schools, and seeking opportunities of collaboration with the College of Textiles and the Department of Chemical and Biomolecular Engineering.

Last year, we sent a graduate student in master course to NCSU/MAE for 5 months supported by ETRIP 2005, to seek a way of applying the concept of Bayesian networks and support vector machines to structural/usage/activity monitoring, under the supervision of Prof. Noori and Prof. Yuan, who has been one of my colleagues since 2001 and named as a new coordinator of NCSU-side.

Purpose and achievements of the ETRIP 2006 project

This year, we sent a master course student Mr. KOBAYASHI Shuhei to NCSU from October 2006 to December 2006 to conduct a joint project with Prof. Yuan on wireless smart sensors. The primary purpose of this project was to extend the design of the wireless smart sensors which had been developed by Prof. Yuan's lab, to combine them with our algorithms of the integrity monitoring of structural joints based on the measurement of angular rate. This project was originally initiated by Prof. Yuan and me when I visited his lab during the stay of the aforementioned 2005 ETRIP project.

Mr. Kobashi, who had been working on the damage monitoring of the bolted joint using our algorithms, had one-year experience in microcomputer-based programming but not familiar with embedded hardware designing. In addition, he was in the second year in master course so that the time to spend for this stay was so limited. In order to maximize the fruits from this opportunity, he, Prof. Yuan and I discussed before his visit, and carefully planed the process schedule of this 2.5-month stay. We defined his primary mission to design and develop an extension sensor board to connect with a wireless sensor unit that was also to be manufactured by him with the collaboration of graduate students in Prof. Yuan's lab.

In my judgment, he worked very hard, in well-motivated, energetic attitude, well-communicating with surrounding foreign students, making appropriate choices and decisions, managing the problems and difficulties to be solved. He successfully made an extension board and a wireless sensor unit, and brought them back to our lab. Unfortunately, we didn't have enough time to test and evaluate the wireless board, but I believe this prototype will lead us to further collaboration with Prof. Yuan's team in the field of structural health monitoring and wireless sensor networks.

Acknowledgement

I would like to express my best gratitude to the ETRIP Promoting Committee for giving us this great opportunity and supporting our project. I would also like to thank the Office of International Exchange for all of their kind support.

A report on the research at St. Georges University of London

HASHIMOTO Reina

Graduate Student

Division of Applied Science for Functionality

I am very honored to have studied under the kind guidance of Dr. Sue Cotterill and Dr. Gilles Crevel at St. Georges University of London in United Kingdom from Sep 2006 to Nov 2006. I here report my work and experience during my stay in London. I strongly hope that this will motivate readers to learn and experience many things abroad, and explore the unknown world through communication with a variety of people with different backgrounds.

Research abstract

DNA replication is one of the most fundamental and vital events in almost every creature. Its defects are highly related to tumorigenesis. Therefore, a growing number of studies have been conducted all over the world for the better understanding of DNA replication and its related events. Throughout my stay in London, I was working on the studies of the MCM (minichromosome maintenance) proteins which play an important role in DNA replication in higher eukaryotes.

Questions of the project

1. The major highly related MCM proteins are MCM2, 3, 4, 5, 6 and 7 which interact with each other for their function as replication factors. A striking feature of the MCM proteins is their high abundance in comparison to other replication proteins. Recent *in vitro* studies in *Xenopus* extracts have suggested that this excess is needed during replicative stress. In this context, I examined whether this is true *in vivo* using S2 culture cells derived from *Drosophila* embryo.
2. More recently additional MCM2-7 related proteins called MCM8, 9, and 10 have been identified. However, few studies on the cellular function of MCM8 have been published. As an initial part of the studies to clarify its cellular role in detail, I tried to establish *Drosophila* S2 cell lines with constant expression of MCM8. These cell lines would be useful for the screening of protein interacting with MCM8. This should make a significant contribution, in understanding the role of MCM8.
3. MCM proteins are thought to have a role as the replicative helicase. However, it is not clear whether MCM2-7 proteins constitute the only replicative helicase or whether other helicases also have replicative roles. In order to investigate the contribution of other cellular DNA helicases to DNA replication, I examined their possible interplay with the MCM proteins in *Drosophila* S2 cells.

Through these studies, I obtained much knowledge about cell cycle and DNA replication. It was the right decision for me to have chosen the different subject from the one that I work on in Japan, because I could explore a new field and get new ideas from a different point of view. I am also very pleased with having learnt a lot of innovative and technical skills, such as how to use Fluorescence-activated cell sorter (FACS), how to analyze its data, and how to treat culture cells to cause RNA interference, and so on. I

would like to make full use of these knowledge and skills for my future work.

Life in St. Georges University of London

I am very appreciative for the kindness of my supervisor Dr. Sue Cotterill and adviser Dr. Gilles Crevel. They kindly spared much time for my research progress and my English improvement through the frequent and worthy discussions, and pleasant daily conversation. What I was impressed was that they were so friendly and open-minded beyond our positional relationship as a student and teachers that I could feel free to talk and ask a scientific suggestion at any time. I was also impressed with the open atmosphere beyond the laboratories. All teachers, researchers and students freely talk about their work even if they work in the different fields in the different laboratories. Through these conversations, people get a clue, a new idea, and a solution for the problem that they face. Certainly, it is one of the best ways to develop their work more and more. These experiences taught me that the wide communication is as essential for the research as for the daily life.

Acknowledgement

I am certain that this program would greatly help ambitious and capable students to improve their abilities and develop their work more. I hope this innovative program will develop more and more to educate a lot of able students. I am grateful to the International Planning Division of Kyoto Institute of Technology for providing me such an instructive opportunity and a financial support. I also would like to express my deep and sincere gratitude to Dr. Sue Cotterill and Dr. Gilles Crevel for their large contribution. I wish to extend my gratitude to my Japanese supervisor, Dr. YAMAGUCHI Masamitsu for his warm and tender support.



Schedule

Date	Summary
2006.9.5 (Tue)	Arrival in London
2006.9.6 (Wed)	First visit at St.Georges University of London. Discussion on the coming work
2006.9.7 (Thu)	Start Experiments Cloning RNAi of MCMs in S2 cells FACS analysis Immunohistochemistry etc.
~	Every Thursday, I had a meeting with my supervisors. Every Friday, I had an English lesson. Every Wednesday, seminars presented by researchers from various countries were held, giving me the wide knowledge and the latest information in their field.
2006.11.22 (Wed)	Professor YAMAGUCHI and two of my laboratory mates visited St.Georges University of London.
2006.11.23 (Thu)	Professor YAMAGUCHI gave the seminar at St.Georges University of London.
2006.11.28 (Tue)	Finish Experiments.
2006.11.29 (Wed)	Final meeting with my supervisors about whole my work during stay in London
2006.11.30 (Thu)	Arrival back in Japan

Brief Report of the Engineer Training and Research Innovation Program (ETRIP) carried out at St. Georges University of London in the United Kingdom

YAMAGUCHI Masamitsu
Professor
Department of Applied Biology

Outline of the program:

MCM (minichromosome maintenance) proteins were first identified in genetic screens in yeast to discover proteins involved in DNA replication. A number of studies, however, suggest that MCMs play multiple roles *in vivo* in addition to DNA replication. HASHIMOTO Reina, a graduate student in my laboratory stayed in Dr. Sue Cotterill's laboratory for three months (Sep 5, 2006 to Nov 30, 2006) and participated in MCM projects ongoing in her laboratory. Reina worked on three different but related subjects on MCM proteins as detailed in her reports. Reina studied on Muscular Dystrophy Model in *Drosophila* in my laboratory here in Kyoto Institute of Technology (KIT) that is quite different from the MCM projects. However, by participating in the MCM projects, she extended her knowledge in molecular biology and learned many new techniques on which she never experienced before. These knowledge and skills would be very useful for her scientific carrier in future. Although three months are not enough to obtain complete piece of data, some of the results she obtained were incorporated into the manuscript entitled "Differential requirements for MCM proteins in growth and DNA replication in *Drosophila* S2 cells" which was recently submitted for publication.

I visited Sue's laboratory at St. Georges University of London from November 22 to 30, 2006. During staying there, I gave a seminar at her Department (Department of Basic Medical Sciences). The title of my talk was "Development of Muscular Dystrophy Model in *Drosophila*" on which Reina worked in my laboratory. It was fun for me to interact with many good scientists in her Department and discuss on the science in UK.

My laboratory and Sue's group have been collaborating on prSET7/8, a Histone H4 lysine 20 methyl transferase in *Drosophila*. During staying in London, we also discussed on this collaborative research.

On summary, I believe that this ETRIP program is beneficial for both students who participate in it and also to the host laboratories involved. I hope that the program continue to support collaborating studies between two laboratories in KIT and St. Georges University of London. Finally, I would like to express sincere thanks to Dr. Sue Cotterill and her post-doc. Dr. Gilles Crevel for taking care of HASHIMOTO Reina in London.



Measurements of the hydraulic permeability of woven jute fabric and the mechanical properties of woven jute fabric-reinforced composites

(The Ecole des Mines de Douai)

TAKINISHI Yasuisa

Graduate student

Master's Program of Advanced Fibro-Science

Training period between October 16th, 2006 and January 15th, 2007

First of all, I would like to sincerely thank the welcome of the Ecole des Mines de Douai and ETRIP program by KIT that gave me a good opportunity. This training gave me a lot of precious experiences and good consciousness of researcher. I have learned many important things for three months of this training period. I think this period could not be better. I would like to thank everybody again in KIT and research centre of Polymers and Composites Technology & Mechanical Engineering Department at the Ecole des Mines de Douai, France for kind considerations and their warm welcome.

The theme was given about measurements of the hydraulic permeability of woven jute fabric and the mechanical properties of woven jute fabric-reinforced composites. Natural fibres are a low-priced and natural resource. With increasing environmental protection consciousness, natural fibres as a relatively new group of environmental friendly materials are in considerable demand in recent years, by unifying technological, economical and ecological aspects. Regarding the field of polymer-matrix composites, there is a growing interest in the use of natural fibres as reinforcing materials.

Although ongoing researches focus on jute/biodegradable polymer composites and jute fibre/non-degradable polymer composites, there are few researches on the treatment on jute fabric and their effects due to changes of the surface geometry, topology and chemistry of the fibre. In order to verify that the treatment has effects, this research work is concerned with measuring hydraulic permeability of jute fabric and the evaluation of the mechanical properties of woven jute fabric-reinforced composites. Regarding measurement of change of surface geometry and topology, we compared Natural/raw jute fabric to Bleached jute fabric. They were observed with Scanning Electro Microscopy and the hydraulic permeability is measured, which is a factor only determined by the geometry of porous media.

In order to evaluate the properties of natural and bleached jute fabrics, rectilinear infiltration experiments with assemblies of woven natural and bleached jute fabrics at various pressures and tensile test with both jute reinforced composites were carried out.

Regarding the permeability of these preforms, the permeability of both preforms varies widely due to the capillary pressure in spite of the same pressure and number of layers of fabric. Since the permeability proved not to depend on the injection pressure, the more injection pressure decreases, the more capillary pressure misled the calculation of permeability in Darcy's law equation. Therefore, the variation of these values verifies that jute woven fabrics have capillary effect.

Regarding mechanical properties of jute reinforced composites, it is concluded that although the mechanical properties of jute reinforced composites do not possess strengths and modulus as high as those of conventional composites (glass reinforced, for instance), they do have better strengths than wood

composites and some thermo plastics. Therefore, these composites could be considered for future materials use. Also the SEM fracture pictures showed that the treatment enhances the resin adhesion onto the fiber. Since the reinforcing material is eco-friendly, non-toxic, non-health hazardous, low in cost and easily available as compared to conventional fibres like glass, carbon, aramid etc., the composites are a good substitute for wood in indoor applications such as shelves, partitions, wash basins and table tops, and may also be suitable for outdoor uses such as roofing, drainage pipes, automobile components, electrical fittings as well as larger items such as lightweight fishing boats.



Fig. 1. Experimental setup of Infusion

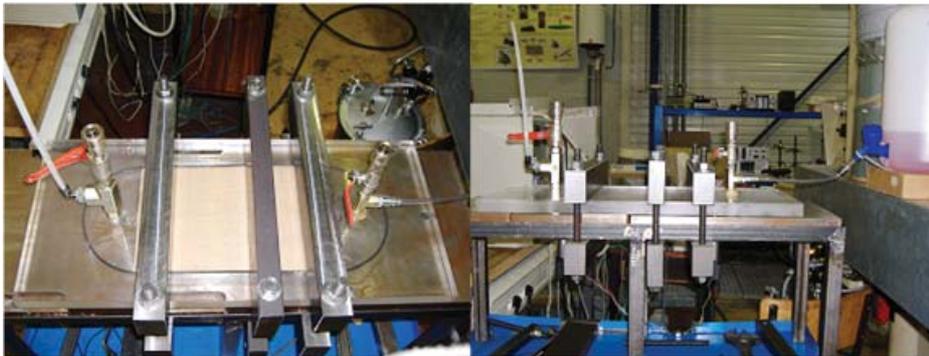


Fig. 2. Experimental set of Injection



Development of an isotope-labelling LC/MS method and its application to metabolomics (University of California, Davis)

KOZUKI Kodai

Graduate Student

Master's Program of Biomolecular Engineering

An isotope-labeling Liquid Chromatography/Mass Spectrometry (LC/MS) method was developed.

In several papers, our laboratory has reported that monolithic silica columns show superior performance as compared with conventional particle-packed columns. Fig 1 shows the co-continuous structure of a monolithic silica column. It is effective for both high efficiency separation and high-throughput simultaneously. Furthermore, it is easy to downsize with monolithic silica columns to a capillary size in order to analyze precious samples by connecting to MS directly.

The purposes of the research at the University of California at Davis (UCD) are to apply the above mentioned technique to metabolomics, and to learn the quantification technique, with high efficiency separation which is provided by monolithic silica capillary column, and high sensitive detection which is provided by MS. Figure 2 shows the instruments used in this work.

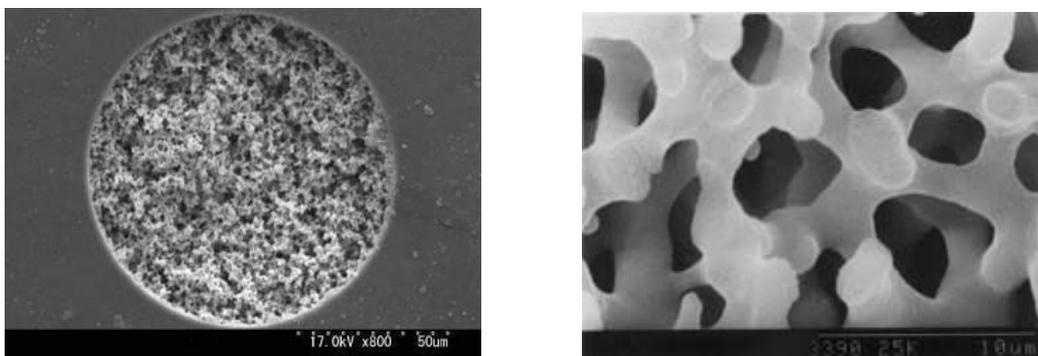


Fig 1. SEM images of monolithic silica capillary column

Experiment

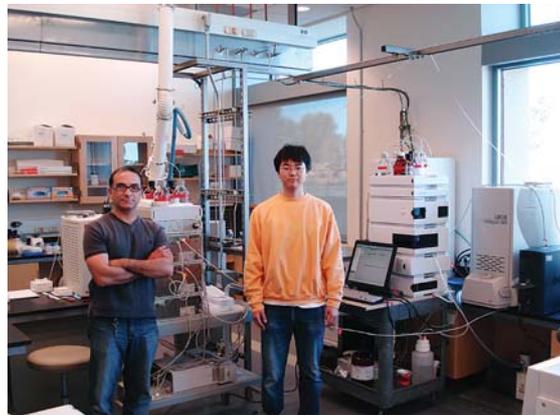
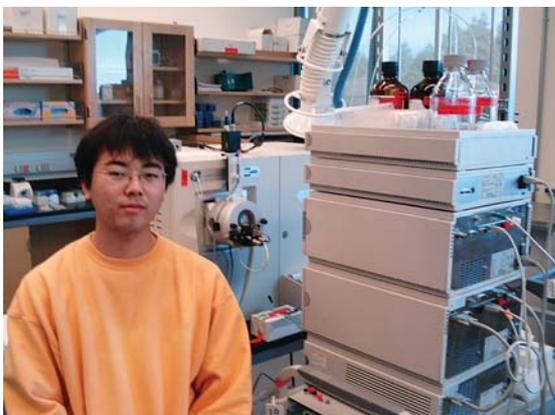
1 At first, HPLC separation conditions and MS acquisition conditions were optimized. The target samples for metabolomics are complex mixture including many substances with different properties. Therefore, in order to achieve efficient separations the optimization of mobile phase (organic solvent, buffer, pH), gradient program, and column stationary phase is very important. In our laboratory, we have been working in the preparation of long monolithic silica capillary columns. The use of these columns is an easy approach to enhance chromatographic resolution. For this reason, the application of long monolithic silica capillary columns in LC/MS using an ion trap mass analyzer was studied. The results were also compared to those obtained using conventional columns. Moreover, the future goal of metabolomics is to obtain metabolite compound structures, so working with LC/MS techniques is mandatory. During this study, I worked with electrospray ionization (ESI) source in positive and negative ion modes and with



Fig 2. LC/MS instruments

several types of mass analyzers such as ion-trap, Fourier transform ion cyclotron resonance (FT-ICR), and Time-of-flight (TOF) instruments. The selection of the instrument will depend on the purpose.

2 The samples extracted from plant and microorganism were prepared. The extraction results were dependent on the extraction solvent employed. I analyzed metabolite samples obtained from soy bean, rice, green tea, arabidopsis and chlamydomonas. These samples contain a great number of metabolite compounds. It is also interesting to compare metabolites between wild type and gene modified plants. When analyzing them by MS, they showed different peak intensities suggesting that they have distinct amount of metabolites. Additionally, I learned how to quantify the metabolites present in the plant extract. In general, it is not necessary to use a straight calibration curve, because the results obtained with a bended calibration curve are acceptable. I also conducted a derivatizing reaction by using acetic anhydride, which is a typical esterification method. The complex mixture of compounds extracted from plant were acetylated and analyzed. In this step it is very important to apply isotope labeling method for quantification although it was hard to pursue the change on retention behavior. However, it must be used for target analysis.



Impression

In this program, I was able to participate in a research from a chromatographic point of view and to learn a lot of things about biological aspects and advanced technology of mass spectrometry analysis. In general, the experiments conducted in the research group where I did my stay are focused in different applied fields of chromatography. However, they contain basic aspects like the validation of separation methodologies. It was a great opportunity to learn that chromatography is very useful in the applied biological science.

I noticed some differences between UCD and Kyoto Institute of Technology (KIT). The first is the amount of information available as we can get access to many scientific journals whenever we want. The second is that they have a close connection to other laboratories beyond department. They can work on the same project and they share the instruments. And the third is that they keep in mind the effect we have on the environment. For instance, the evening of weekends, they save electric energy by turning off half of the lights. I think we should follow the example of UCD, because it is important for students to think in science and engineering majors in especial.

Recently, metabolomics is playing a very important role in medicine manufacture. So we are able to contribute for metabolomics from the separation field. Furthermore, we have to improve our knowledge about biology, because we must be always conscious when our separation technique can be applied. I think that the knowledge of both chemistry and biology makes our experiments easier.

In UCD there were many researchers from a lot of countries. Through the communication with them, my English skill was improved a little. However, it was too short for me to become very fluent in English. For this reason, I would like to keep studying English until I become a better English speaker. At last, I would like to explain the members of my laboratory what I have learned in UCD and use this knowledge on my own research at KIT.

The Research of Fiber Bragg Grating Sensor Embedded in the Composites (Ryerson University)

TAKAI Yoshihiro

Graduate Student

Master's Program of Advanced Fibro Science

I visited the Dr. Poon's laboratory, Department of Aerospace, Ryerson University, Toronto, Canada to study about fiber optic sensors. My stay was from 29th January to 31st March.

Fiber optic sensors have been an increasing interest in the field of strain and temperature measurement. These sensors were developed to displace the electronic sensor system. Especially, Fiber Bragg gratings (FBG's) have the potential to be able to reduce the manufacturing costs. Also, FBG's have the advantages that can be embedded into the material to allow the measurement of distributed sensing.

FBG's are made in the core of fiber optics by exposure of ultraviolet (UV) laser. To illuminate the UV laser can change the refractive index of the fiber core permanently. And the phase mask is also used to fabricate the FBG's. The phase mask is made from flat slab of silica glass. There are square wave periodic pattern on one of the flat surface. The fiber optic is placed almost in contact with the corrugation of the phase mask as shown in Fig.1. Then, the UV laser is illuminated through the phase mask. The UV laser is diffracted by the periodic corrugations of the phase mask. The diffracted order beams interfere to produce a periodic pattern that photoimprints a corresponding grating in the fiber optic.

The periodic change of index in the fiber core acts as a stop-band filter. A narrow band light is reflected by gratings as shown in Fig.2. The basic principle of operation used in FBG sensor system is to monitor the shift in wavelength of this reflected light, which call 'Bragg wavelength'. The Bragg wave-

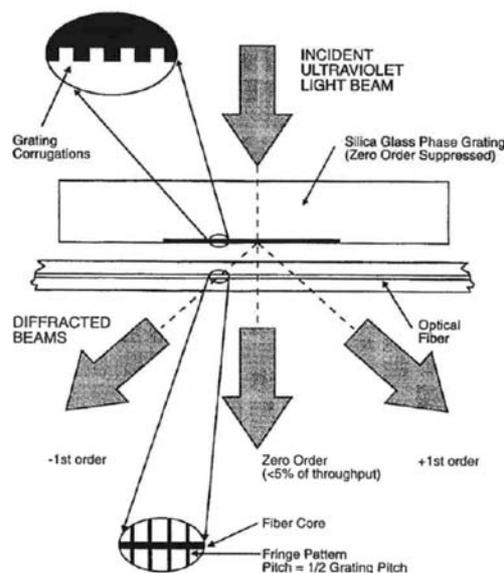


Fig.1 Bragg grating fabrication apparatus based on phase mask

length is given by

$$\lambda_B = 2n\Lambda \quad (1)$$

where n is the effective index of the core and Λ is the grating pitch. Any change in fiber properties, such as strain, temperature or polarization, will vary the index or grating pitch. Therefore, the Bragg wavelength will shift. The shift in Bragg wavelength with strain and temperature can be given by

$$\Delta\lambda_B = 2n\Lambda \left(\left\{ 1 - \left(\frac{n^2}{2} \right) [P_{12} - \nu(P_{11} + P_{12})] \right\} \varepsilon + \left[\alpha + \frac{\left(\frac{dn}{dT} \right)}{n} \right] \Delta T \right) \quad (2)$$

where ε is the applied strain, P_{ij} coefficients are the Pockel's (piezo) coefficients of the stress-optic tensor, ν is Poisson's ratio, α is the coefficient of thermal expansion (CTE) of the fiber optic material, and ΔT is the temperature change. When the temperature is constant, 0.8 pm shift of Bragg wavelength gives a μ strain.

In this research, we have tried measuring the residual strain of multi-axial warp knitted fabric (MAF) composites by using above mentioned FBG sensors. The MAF composites used in this research consist of carbon and glass fiber as reinforcement and epoxy resin as matrix. And that is fabricated by hand lay up method. During the processing, the fiber optic with FBG sensor is embedded into the composites. The schematic illustration of fiber optic layout is shown in Fig.3. After curing the matrix epoxy resin, we tried measuring the Bragg reflected wavelength to calculate the residual strain.

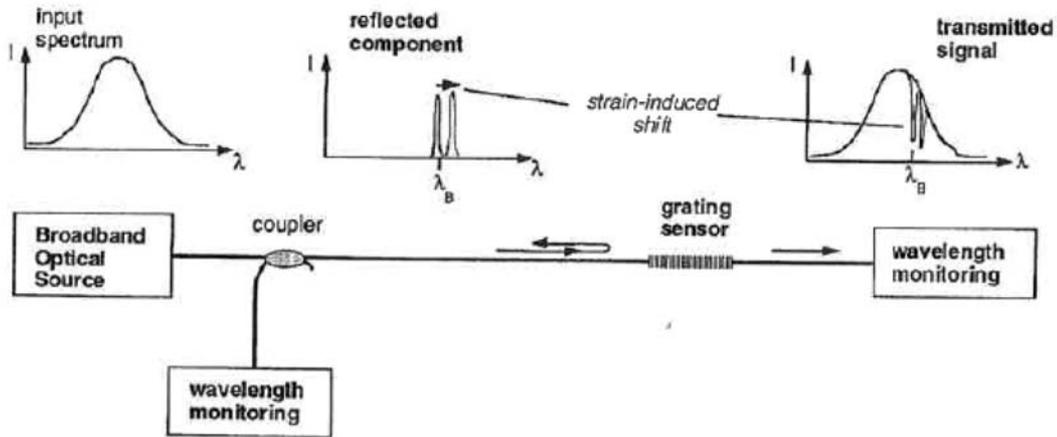


Fig.2 Basic FBG sensor system

Table 1 shows the results from each sensor. All sensors give the compression residual strain. In order to cure the matrix epoxy resin, the temperature was increased up to 120°C. Then the specimen cooled down to room temperature. The matrix resin was compressed during cooling because epoxy resin has positive coefficient of thermal expansion.

From this research, I could understand the fundamental knowledge about fiber optic sensor. And my English improved. I would like to appreciate the support for this research from Professor Cheung Poon and Mrs. Lesha Kolubinski, Ryerson University.

I would like to express my best gratitude to ETRIP committee for giving me this great opportunity and thank the Office of International Exchange for all of their support.

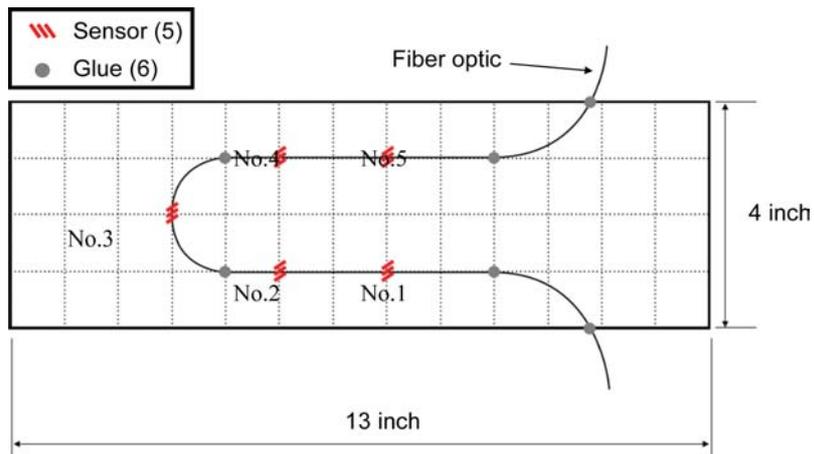


Fig.3 Illustration of fiber optic

Table 1 Result from each sensor

	No.1	No.2	No.3	No.4	No.5
Residual strain (μ)	-212.5	-217.5	-217.5	-222.5	-162.5

Reference

Alan D. Kersey, et al., *Fiber Grating Sensors*, Journal of Lightwave Technology, vol. 15, No. 8, p. 1442, August 1997

Kenneth O. Hill and Gerald Meltz, *Fiber Bragg Grating Technology Fundamentals and Overview*, Journal of Lightwave Technology, vol. 15, No. 8, p. 1263, August 1997

A Brief Report of the ETRIP Program in Canada (Ryerson University)

NAKAI Asami

Associate Professor

Future-Applied Conventional Technology Center

Dr. Cheung Poon is professor at Department of Aerospace Engineering, Ryerson University. I have been brought into contact through Canada-Japan Workshop on Composites. The sixth Joint Canada-Japan Workshop was held in Ryerson University, Toronto, Canada, August 24-26, 2006, following the success of the previous five workshops held in 1996 in Kyoto, 1998 in Montreal, 2000 in Kyoto, 2002 in Vancouver, and 2004 in Yamagata. For the sixth workshop, in addition to the regular oral and poster presentations, emphasis has also been placed on providing a forum for the networking between the Japanese and Canadian researchers. In these circumstances, we promised the collaborative projects for the future.

Thanks to the Engineer Training and Research Innovation Program (ETRIP), we have a chance to achieve the early enforcement of the collaborative project between Kyoto Institute of Technology and Ryerson University. Prof. Poon is expert with a broad knowledge of sensing with optic fiber sensor. Meanwhile, we have technique to fabricate textile fabric as reinforcements of fiber reinforced composite materials and mold composite materials with resin.

We embedded the sensors in textile fabrics during fabrication process and impregnate resin. The purpose of this study is to apply fiber Bragg grating sensor for the measurement of residual stress during molding and detect the crack initiation and progress on textile composites.

Mr. Takai has built a good relationship with Prof. Poon, Prof. X Gu who is expert in Fiber Optic Communication and Sensing, and students in Prof. Poon's laboratory. He practiced the fundamental knowledge about fiber optic sensor and measuring system of residual stress and the crack initiation and progress on composites.



Photo. 1 Ryerson University, 350 Victoria Street, Toronto, Ontario M5B 2K3 Canada

During my staying, seminar was held, in which I presented composite research at KIT and Mr. Takai and Prof. Poon's graduate student (Ms. Lesha Kolubinski) explained up to date with the progress of the collaboration. Prof. Poon is planning to attend International Conference on Composite Materials, held in Kyoto in July and will visit KIT, We will continue the collaborative project.

Finally, I would like to express my acknowledgement to ETRIP program for giving my student this great opportunity and supporting our project. I would also like to thank the Office of International Exchange for all of their kind support.



Photo 2; With Prof. Cheung Poon

Reports from Participants

Chapter 3.

Short-term Intensive English Program at the University of Leeds

Short-term Intensive English Program at the University of Leeds, UK

COURSE DETAILS

Course: Academic English Programme focused on art and science

Place: The Language Centre at the University of Leeds, United Kingdom

Dates: 7th August - 1st September (Departure: 4th August / Return: 3rd September)

Hours per week: 20-21

Pre-departure Sessions in Japan: 14 hours

Students' Accommodation used: Homestay

Participants

Total number of Students: 28

Department	2nd year	3rd year	4th year	total
Mechanical and System Engineering	1	2	0	3
Electronics and Information Science	0	2	2	4
Chemistry and Materials Technology	4	5	0	9
Architecture and Design	0	4	0	4
Applied Biology	2	2	0	4
Polymer Science and Engineering	2	2	0	4
total	9	17	2	28

COURSE COMPONENTS

Components and approximate percentage of total course time dedicated to each:

Language Development: - approximately 30%

Project Work: - approximately 40%

VISITS/EXCURSIONS

Tour of Leeds

Visit to Royal Armouries Museum

Excursion to Thackray Medical Museum

Excursion to London

Excursion to York



Program Schedule 2006

ARRIVAL

Friday 4, August	Met by LC staff at Leeds Airport.
	Transfer to host family accommodation
Saturday 5, August	Settling in
Sunday 6, August	Settling in

WEEK ONE

Monday 7, August

09.30-13.00	Introduction to the programme University registration Keeping an English diary Orientation to the campus
14.00-15.30	Leeds Discovery Walking Tour

Tuesday 8, August

09.30-11.00) Needs Analysis, Language Assessment and Personal Consultations
11.30-13.00	
14.00-15.30	Leeds Excursion

Wednesday 9, August

09.30-11.00	Oral Communication
11.30-13.00	Academic Language Development: Reading Skills
14.00-15.30	Computer orientation & Introduction to English for Academic Purposes (EAP) e-learning materials

Thursday 10, August

09.30-11.00	Academic Language Development: Writing Skills
11.30-13.00	Intro to Leeds Museum Research Project: Internet-based research
14.00-15.30	Leeds Museum Research Project: Research at Museums

Friday 11, August

09.30-11.00	Oral Communication: Presentation Skills 1
11.30-13.00	Leeds Museum Research Project: Presentation Preparation
14.00-15.30	Leeds Museum Research Project: Presentations

WEEK TWO

Monday 14, August

09.30-11.00 Academic Language Development
11.30-13.00 Oral Communication: Discussion Skills 1
14.00-15.30 Excursion Briefing & Introduction to the Poster Project

Tuesday 15, August

09.30-11.00 Academic Language Development
11.30-13.00 Oral Communication: Presentation Skills 2
14.00-15.30 Excursion to Thackray Medical Museum

Wednesday 16, August

09.30-11.00 Poster Project: Preparation
11.30-13.00 Poster Project: Preparation
14.00-15.30 Poster Project: Presentations

Thursday 17, August

09.30-11.00 Academic Language Development
11.30-13.00 Oral Communication: Discussion Skills 2
14.00-15.30 Academic Language Development

Friday 18, August Excursion to London

Saturday 19, August London

Sunday 20, August Return from London



WEEK THREE

Monday 21, August

09.30-11.00 Academic Language Development
11.30-13.00 Oral Communication: Presentation Skills 3
14.00-15.30 Academic Language Development

Tuesday 22, August

09.30-11.00 Academic Language Development
11.30-13.00 Oral Communication: Seminar Skills
14.00-15.30 Introduction to the Questionnaire Project

Wednesday 23, August

09.30-11.00 Questionnaire Project: Preparation
11.30-13.00 Questionnaire Project: Preparation
14.00-15.30 Questionnaire Project: Conducting the Questionnaire in Leeds City Centre

Thursday 24, August

09.30-11.00 Questionnaire Project: Presentation Preparation
11.30-13.00 Questionnaire Project: Presentation Preparation
14.00-15.30 Questionnaire Project: Presentation Preparation

Friday 25, August

09.30-11.00 Questionnaire Project: Powerpoint Presentation (filmed)
11.30-13.00 Questionnaire Project: Video Feedback
14.00-15.30 Excursion Briefing: York



WEEK FOUR

Monday 28, August UK Public Holiday/University Closed

Tuesday 29, August Excursion to York

Wednesday 30, August

09.30-11.00 Introduction to the Magazine Project

11.30-13.00 Magazine Project: Production

14.00-15.30 Magazine Project: Production

Thursday 31, August

09.30-11.00 End of Course Test

11.30-13.00 Magazine Project: Production

14.00-15.30 Magazine Project: Production

Friday 1, September

09.30-11.00 Magazine Project: Feedback

End of Course Quiz

11.30-13.00 Course Evaluation Questionnaire

Presentation of Certificates

Farewell Lunch

14.00-15.30 Free for shopping & packing

Saturday 2, September Departure



Students' Reviews of the Short-term Intensive English Program at the University of Leeds

KAWAI Yuri

Program Evaluation	<p>Program at Language Centre ··· Satisfaction. The classes were full of activity, opportunity and discovery. Any project was very interesting, and it was suitable at university student's level.</p> <p>Home Staying ··· There was a good host mother, good cook and good bed. The host mother gave me a lot of knowledge of Britain. I enjoyed the conversations.</p> <p>Others ··· It was an enough period though was short. There were a lot of chances to learn the culture.</p>
Personal Gain from the Program	<ul style="list-style-type: none"> • In the classes, I learnt not only basic speaking and listening but also the skill that composes logical sentences and persuades others. • I have become familiar with the lifestyle of UK through Home Staying and Shopping. I tried to solve the interest and the doubt to the culture through the conversation with Host Mother and the classes. • Through the travels and the excursions, I learnt the geography relation and the feature of the towns in Scotland and England.
Personal Review	<ul style="list-style-type: none"> • Prior classes were very useful. My conversation became rich thanks to the remembered expression. • The program at the Leeds University was wonderful thanks to this teacher team including Anne. I want them to be going to keep this quality from next year. • I don't think that it was good to put the member with greatly different English language skill in the class, because the chance of the remark decreases. • I came to want to stay there for one more year and to go abroad to study, work, and activity.



KOBAYASHI Shogo

Program Evaluation	A very valuable experience can have been done. I do not have dissatisfaction excluding shortage of the period. I think that it was very good that there is a person who knows the local well.
Personal Gain from the Program	I was able to overcome it though I was scared the westerners.
Personal Review	Life in the first through my life foreign countries became very good. I recommend to future students that they decide people who were used to accept foreign students their host. When I leaving from UK, I felt missed because they send off me usually in front of house in addition my host mother was sleeping!

KOBAYASHI Makoto

Program Evaluation	I think it was very good program. The lessons were proper for me and I could enjoy studying.
Personal Gain from the Program	I could improve English skill. And I think presentation skill will be useful for me in the future. And I gained precious memories.
Personal Review	I'm really happy to join this program. I became to be interested in English more. So I became to think I want to improve English skill more strongly. I think this experience will be my treasure. Thank you for providing this program.

MIZUNO Takashi

Program Evaluation	I think it's better to take proper lesson for each people. Because there are big difference of English level in each people. It's so happy that I can go sightseeing alone in day off.
Personal Gain from the Program	I could get vocabulary and description a lot. And I think it is good experience to visit many historical structure and to experience different culture for spreading own view. I think I was confidence in listening English better than before.
Personal Review	It was good opportunity to learning English and different culture. And I think that learning English indifferent country is happier than learning in Japan. But I think It's not so good that many Japanese take lesson in same class.

SASAKI Akito

Program Evaluation	<p>This program was very useful for my growth. The experience I got in the UK couldn't get when I was in Japan. And I could enjoy the life in the UK. So I think the program was very nice.</p>
Personal Gain from the Program	<p>Especially, speaking and listening has improved. So I don't afraid of talking with foreigner now. Before the program, I was not so. Of course, also reading and writing skills has improved a little.</p> <p>And I learned the lifestyle of the UK.</p>
Personal Review	<p>I think our English skills have improved. Of course it includes me.</p> <p>The things we got are not only language skills but also body language, English sense of worth, English lifestyles and so on.</p> <p>And I could make friends. I had a sweet time.</p>

NAKAJIMA Takahiro

Program Evaluation	<p>There were too many projects in this program. I thought we could do these projects in Japan. Instead of these, I wanted to learn practical English.</p> <p>However, other lessons were good. Those were very interesting. I could enjoy.</p>
Personal Gain from the Program	<ul style="list-style-type: none"> • My listening and speaking skill improved. • I leaned formal English and informal English. • A difference of pronunciation between R and L, V and B
Personal Review	<p>I could have a good time in Leeds. This experience gave me many things. I wanted to stay there more time. If I have another chance to go there, I'm pleased to go.</p> <p>And I got a friend from China. I want to keep in touch with him.</p>

MORITANI Yuri

Program Evaluation	<p>The program was good. At the University of Leeds, I could learn a lot of things.</p> <p>Especially presentation projects were useful to me. It took a lot of time to prepare projects, but I could get a sense of accomplishment when I finished projects.</p>
Personal Gain from the Program	<p>I think I can listen and understand English more than before. And I become not to be reluctant to use English. So I use English everyday.</p>
Personal Review	<p>In my opinion, it is better to decrease the number of students, because it is hard that all of the students are united.</p> <p>I had a very good time in the U.K. I will never forget these happy days.</p>

ISHIDA Yuka

Program Evaluation	<ul style="list-style-type: none"> • I felt this program was very good. Almost all of class was interesting and I enjoyed it. • KIT students were friendly with teachers. I felt everyone confided in them. • In the various presentations, we learned how to speak about it.
Personal Gain from the Program	<ul style="list-style-type: none"> • I felt that skills of listening and speaking attached considerably thanks to homestay program. In the final test, I came to understand the content of listening than before. • I could do a better pronunciation, because teachers had taken the practice of it in the class. • I came to have a confidence in my English after I gave the presentation to everyone.
Personal Review	<ul style="list-style-type: none"> • If my homestay had been made a little more well, I might have been able to develop the skill of speaking more. • I become a chance to obtain new knowledge by touching the culture and the history of Britain. It is good for me to learn it. • English conversation is not able rarely to do in daily life. Therefore, I am glad to join this program.

SUGIMOTO Yuki

Program Evaluation	<p>This program is very good. It is good for us to talk with foreign people, because we can experience different culture.</p> <p>If the number of class decreases, we might have more chances that we learn English.</p>
Personal Gain from the Program	<p>This program was good experiences for me. I got better English than former English. And, I got the different culture.</p> <p>I'm glad that I made foreign friends.</p> <p>I found many aims that I should.</p> <p>I'm interested in English. I want to study English from now on.</p>
Personal Review	<p>I had better speak English only. So, it means that I carry out next aims that I found in this summer.</p> <p>And, I want to go to other countries to experience other cultures.</p>

MATSUSHITA Daiki

Program Evaluation	I felt this program was great evaluation. It was valuable experience for me to participate in this program at the University Leeds.
Personal Gain from the Program	Before I come to Leeds, I could not speak English well. Now, I can partly speak and listen to English.
Personal Review	I would like to make the most of this experience in the future of my life!!!

SHIMAMOTO Tatsuo

Program Evaluation	Great! Sweet! Quality!
Personal Gain from the Program	Different view point It will be important thing for the future.
Personal Review	I am glad to join this program. I want to recommend this program to next generation.

SUEOKA Hiroyuki

Program Evaluation	This program was very fruitful for me. Because Japan has no English surrounding, so it was very new for me. We could go on a trip in England safely and comfortably.
Personal Gain from the Program	<ul style="list-style-type: none"> • I could learn attitude for different culture. • Practicing communication of English conversation. • I could confirm a lack of skill in English conversation.
Personal Review	I felt this program was very short. But it was very fruitful and enjoy. I want to make the most of this experience for practice in English conversation from now on. I appreciate to the persons who supported this program.

ISHIZAWA Takamasa

Program Evaluation	I am really satisfied with this program. There were many lessons of speaking English, listening English and reading English. This program definitely improved my English, I think.
Personal Gain from the Program	I think my skill of listening was improved. When I went to England first, the skill was not good. But at the end of this program, I was able to listen what host family said.
Personal Review	I wanted to stay in England longer. When I and host family became more friendly and started to know each other more deeply, I had to come back to Japan. The term was bit short, I think.

ISHIHARA Kazumi

Program Evaluation	I enjoyed this program very much. So I evaluate high score. I learned a lot of things from this program. I think I won't have a chance for studying abroad. So these were really wonderful memories. I never forget these experiences as long as I live. Our teachers were very good, very kind, and very cooperative if we said our teachers that we wanted to do something. I'm satisfied with this program. Thank you very much!
Personal Gain from the Program	I could make a lot of friends at Leeds University, Konan University and my university. Our social assistants taught a lot of things, for example were soft and trend phrase, trend shop and good café. I really thought a lot of things that were my future, my environment, my opinion, my life style and etc. This program gave me a chance that I thought a lot of things. From I came back Japan I tried to do while I thought things at Leeds. I want to do a lot of things in the future. I touched international view. I thought to have to know more things.
Personal Review	<p>This program was really wonderful. I enjoyed this program very much. It was very good I joined this program. I blessed members who I went to Leeds with. But I said only one thing that we don't need change class after we went to Leeds. Of course, we didn't have a chance to be friend other class members. So we had a chance. This thanked us.</p> <p>Some people said making presentation is to have occasion using Japanese so we have too much to make presentation. But I didn't think this. I liked making presentation. In the future, we probably have to present in English. So I could learn how to present in English. I think to be able to use in the future. I really learned a lot of things from this program that I could use in the future.</p>

Program Evaluation	I am satisfied with this program. I can learn English through the conversation with my host mother and many classes in the university. The classes in the university are very interesting and sometimes useful. So I could really enjoy everything.
Personal Gain from the Program	<p>At first, I could not hear the talk with my host mother. However, for a week later, I can talk with her smoothly and I can speak English well. And I wrote a long diary in English everyday. So I also study English grammar and many words.</p> <p>In addition, we had many projects. So I learned presentation skill from that project.</p> <p>Anyway, I became to speaking English naturally.</p>
Personal Review	<ul style="list-style-type: none"> • I think we need not to change our class after a week. Because the class atmosphere begin to decide. • There are not so big accidents this year but if a big accident happened, we need a teacher who can speak English. (For example, at a hospital) So I think a person who can speak English should stay there together. • I was satisfied with this program. But there are many excursions, so I think some people who wanted to study English hard are not satisfied with this program.

YAMAMOTO Risako

At first, I want to say thank you for my university which supported us to go Leeds and my parents who allowed me to go Leeds.

By this course, my level of English improved very much. At first, I couldn't understand what my host mother said but after I was accustomed to the surrounding I could understand. And I also became to be able to speak in English more. At the beginning, I couldn't tell but I became to tell in English fluently by degrees.

It was very good for us to have chances to have some presentations. Some student said that they wanted have more time to remember their speech but I think we had enough time because we'll have no time when we have to do presentations in the future so that we had good experiments.

It was precious experiment to depart our life in Japan and to live with many new people. I found to independent is very difficult.

I really appreciate that I could meet many wonderful people. The teachers of Leeds were very kind and I really enjoyed their classes. The social assistants were funny. They did their best to plan good events. And my host mother was very nice woman. She was kind and smiling. She cooked my dinner every day and had some home party took me to and from the places I had to go. She didn't intrude her rule on me so that I was free. I hope I'll keep contacting with them forever.

I have a reflection. I should have spoken with Japanese people in English. It is difficult not to speak in Japanese all the time, but it would be good practice. I tried but failed.

I enjoyed this course very much. I spend full time everyday. I could make many great memories. I will never forget every thing. Thank you.

OKUNO Yuka

<p>Program Evaluation</p>	<p>The length of this program was suitable for me. Before I came to Japan, I thought that I wanted to stay longer, but I would work hard because I stayed only a month.</p> <p>The courses at the Uni. were interesting. Our teachers were very kind and they also answered our questions politely.</p>
<p>Personal Gain from the Program</p>	<p>I did not feel progress with my English, but I got confidence in English conversation. In fact, usually I could not understand what they said, however I practiced asking them in return and trying to listen to.</p> <p>Every course at the Uni. were practical and suitable for me.</p>
<p>Personal Review</p>	<p>I spent a fruitful month. Of course to learn English at the Uni. was quite worthwhile. However to live in Leeds and to visit many parts of the United Kingdom, as much, were very interesting for me. I saw many kind people, and I had a precious time. During this program, I had perceived the culture or history in the U.K.</p> <p>I felt that this August was the shortest month.</p>

OYAMA Yukako

<p>Program Evaluation</p>	<p>It was good for me. The difficulty of lessons fit me.</p> <p>There were a lot of excursions. It was very good. But the schedule was a little hard. I couldn't have any time to spare. I wanted to communicate with my host families. But I was too tired to do so.</p>
<p>Personal Gain from the Program</p>	<p>I could understand British culture with my sense. Because there were many excursions, I could see and touch a lot of things -construction, ruins, museum, and gallery. It made my view wider.</p> <p>In class, I could practice to pronounce head words, for example, the difference between "r" and "l". Native teachers can teach it more accurately.</p> <p>And I learned the technique of presentations. But the most interesting thing for me was writing diary as letter. It was good for improving writing skill.</p>
<p>Personal Review</p>	<p>I couldn't have confidence. I feared to make mistakes in speaking. It made me passive. I wanted more chance to conversation with native people. Reviewing from this point, the questionnaire project was good! I could talk with many people in Leeds.</p> <p>I really enjoyed writing my diary. My teacher wrote comments seriously for my diary and corrects my mistakes. It made me positive to write diary. I became to be able to write various feelings in English.</p>

YUGUCHI Atsuko

Program Evaluation	<p>I was satisfied with this program. I will take a trip to England, but I won't be able to homestay and study at university.</p> <p>Many people helped us, as teacher and as friends. I was happy to meet them.</p>
Personal Gain from the Program	<p>I've never spoken with native British people until this program. So, it was great experiment for me. I can't speak or listen English still now. But, if I have any questions, I can ask in English.</p> <p>This program was just start. I want to cherish this good start.</p>
Personal Review	<p>I was really happy to meet my host family, to enjoy the time with them, and to experience British people's real life.</p> <p>I can get a lot of various informations easily by internet, but I couldn't believe them. It is important to see the world with my own eyes, I think. I'll go another country in the future. I want to know the world and people!</p>

YOSHIZAWA Kiyomi

Program Evaluation	<p>It was good that the class had some kind of the lessons. Lessons of communication and grammar made basic. Some projects improved my presentation skill.</p> <p>Teachers were very kind and took care of the class. I was satisfied.</p>
Personal Gain from the Program	<p>I thought how to study English. I became understand what they said, but I couldn't say what I wanted. I thought about English importance as communication skills.</p>
Personal Review	<p>I think I did a lot of valuable experiences. I should be able to use of it when I will think about my future and world.</p>

KOJIMA Natsuki

Program Evaluation	<p>We had a presentation every week. So, we didn't have enough time to prepare the presentation. However, it was good experience for me to speak in public in English. And I think it was too difficult for me to express my opinion in English in the discussion.</p>
Personal Gain from the Program	<p>I think that my listening ability has improved. And it was best thing to stay with my host family in this program. My host mother was happy to tell me what I didn't know, so I could learn many things about the U.K. It was so interesting. And she was pleased to know Japanese culture, so I was happy.</p>
Personal Review	<p>I think it isn't good to change the class after we went to the University of Leeds. This year, the class changed after about a week from the time we began to go to the University. I felt nervous because I was moved from class 1 to class 2.</p>

YAMAMOTO Aki

<p>Program Evaluation</p>	<p>The classes of this program were very good. Teachers know our defects of English. So we could overcome them in the class.</p> <p>We could talk with a lot of English people especially teachers and social assistants during the program. It was very useful for practice in speaking English.</p>
<p>Personal Gain from the Program</p>	<p>This program enables me not to hesitate to talk to English people. This is very fruitful to my study of English. I can talk to foreign people in English actively.</p> <p>I studied a lot of culture and history of England. I experienced English life and understood a difference between English and Japan.</p>
<p>Personal Review</p>	<p>I should speak English more frequently. I talked with my friends in Japanese. It was no good but I could not patient to use Japanese because the life in England gave me a stress.</p> <p>Using English is very difficult. I think that it is effective to be friend with foreign people in order to practice English. So a class should contain students of plural countries.</p>

SUMIKITA Yui

<p>Program Evaluation</p>	<p>This program was wonderful and I really appreciate it. Classes in Britain were very meaningful and staffs (teachers, a director and social assistants) were very kind and made a lot of efforts for us. Thanks to them, I could study practical English. Without them, I would not have spent beneficial times in Britain.</p> <p>And a month is appropriate period. Not only classes but also excursions and social events were great.</p> <p>Only about classes, I wanted to have more speaking and listening ones than such projects as used computers.</p>
<p>Personal Gain from the Program</p>	<p>The best results are being able to feel keenly what I need and what I should do to get the skill of speaking and listening to English. And I realized importance of right pronunciation.</p> <p>I think making friends in Britain is motive power of learning English from now on because I want to communicate much more with them and go to see them again.</p> <p>For a month I could live in the circumstances which people spoke only English so that I can notice the need of practical English.</p>
<p>Personal Review</p>	<p>I should have learned and listened to English much more before going the U.K.</p> <p>And I think I should have also spoken English more with my Japanese friends in the U.K. This was a very important thing to each other, so I regret now.</p>

YASUDAI Rino

Program Evaluation	I could study English culture and the academic English which I won't be able to study without staying in the U.K. and actually feel progress in presentation in English. That's why I am very satisfied with the program.
Personal Gain from the Program	The skill of presentation in English, for example, to make myself understood easily to the audience and to put a lot of information together in short time. At the end of the program, I could understand what English people say in TV programs.
Personal Review	In the classes before we went to the U.K. I wanted to be told about a mental attitude as one of the Japanese students.

SHIMAMOTO Yoshie

Program Evaluation	The lessons and the projects were so useful to me. I thought that I could learn them not at KIT but at the University of Leeds. The excursions and the social activities were nice. And staying with an English family was so great. Thanks to that, I could speak English except in classes.
Personal Gain from the Program	<ul style="list-style-type: none"> • Reading and writing English was getting more and more automatically. I could speak English to British people because I sometimes managed by myself. • As I've never been to the U.K., I found a lot of things; the characters of British people, British life, food, climate, tradition, buildings, et al. • Leeds is centrally located in Britain, so I could visited many places.
Personal Review	<ul style="list-style-type: none"> • I had a lot of nice experiences I can't have just in traveling. Four weeks is short to acquire speaking and listening to English, but I thought that I learned as much as possible. • I was given several opportunities to give presentations, and I practiced and knew how to do them. That will be so useful for my future. • I found that most British things were different from ones I expected. • I'll continue to learn English, keep in touch with my host family, and visit Britain again.

YASUHARA Mariko

Program Evaluation	I thought classes were massive for us. For example, presentation project was useful to give good presentation to others. The technique could not be hold at KIT or Japanese high schools. So I was glad to learn it in this chance. Also classes were very interesting. I could participate in it actively, because the aim of class was clearly.
Personal Gain from the Program	I had thought that I had been not good at English. I couldn't always do English tests well. However, I could change my minds, I became to like English using it in my life of Leeds. I thought it was a very valuable gain, and maybe it was not experienced in Japan. This was my precious thing in my life.
Personal Review	I thought I could grow up at English and at a person. Other students of KIT were stickers, it was good incentive. I could try to do my best, so I could get many valuable things what I seldom got in Japan. This program gave me fantastic experience. I was really glad to take part in this program. Everything was a glorious experience.

KITADA Yukie

Program Evaluation	I was satisfied with the grammar classes that they taught us in native speaker' sense. Presentation program was good for me, too.
Personal Gain from the Program	I learned about not only pronunciation, or listening skills but also importance of telling my own thinking.
Personal Review	I was happy to have been with my host family for a month. They were generous and they introduced their friends to me often. I had many opportunities of talking with strangers, and they improved my listening skills and my mind to live in unknown place.

<p>Program Evaluation</p>	<p>I was very satisfied with this program. Because I was glad to see great teachers, kind host family, nice friends and many English people. In lessons, there were many presentations and discussions about scientific topic. I was able to learn these skills and so it was very useful for me.</p> <p>My host family was all very kind person. Through their help, I enjoyed an English life every day.</p>
<p>Personal Gain from the Program</p>	<p>At first week, I was not able to understand enough what teachers said. So I could not concentrate. But at last week, I was able to understand more than first week and concentrate my attention. I thought I made a progress with my listening skills. So I was able to talk with my host family smoothly. I was very pleased with conversation with them.</p>
<p>Personal Review</p>	<p>On the whole, I had an excellent time in U.K. I will never forget my experience in U.K.</p> <p>But I felt regret for what I have done. I thought I should have talked more with friends, my host family and English people. I was lack of speaking skills. To talk with them more, I must acquire knowledge and speaking skills and practice on speaking.</p>



Report on the Engineer Training and Research Innovation Program (ETRIP) 2006
Kyoto Institute of Technology
supported by the Ministry of Education, Culture, Sports,
Science and Technology in Japan

Published in March 2007 by Kyoto Institute of Technology
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Printed by Tanaka Print
677-1, Ishifudono-cho, Higashi-iru, Fuya-cho, Matsubara, Shimogyo-ku, Kyoto 600-8047, Japan

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