TMDU DENTAL TRAINING PROGRAM 2015

Tokyo Medical and Dental University, Japan

12-25 October 2015

COMPARATIVE DENTISTRY AND FOREIGN EXTERNSHIP

FACULTY OF DENTISTRY, SRINAKHARINWIROT UNIVERSITY

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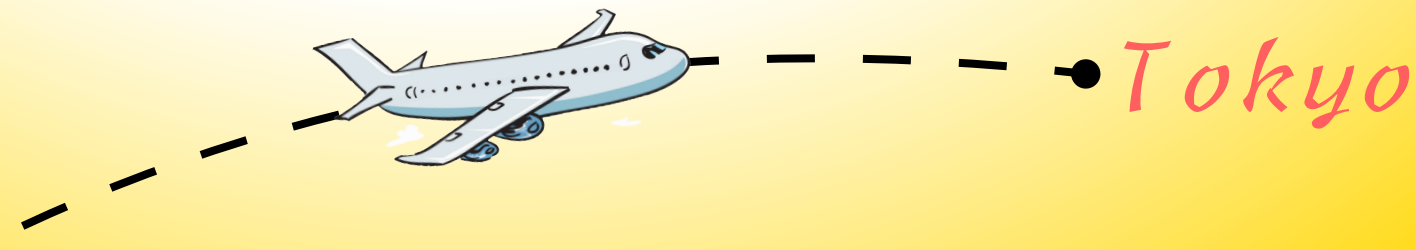
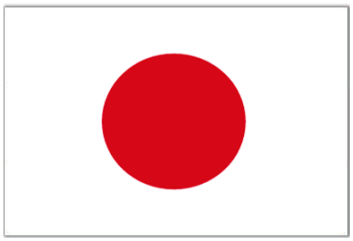
PREFACE

This report contains all the elements of a dental training program 2015 at Tokyo Medical and Dental University undertaken toward Medical and Dental Networking in Southeast Asia. TMDU has formed a consortium with several universities, in order to establish a network based on Japan's strong points such as dental technology, material, and equipment. This year, the training course was held on October 12th -25th, with 4 participating universities. Undergraduate students had a chance to partake many activities, both in and outside TMDU. We received practical instruction in research and clinic, visited the museum and dental manufacturing company, joined activities, and attained Japanese culture experience.

On behave of Srinakharinwirot University, Thailand; we would like to express our sincere gratitude for your generosity as a host university. This inter-university exchange program would positively cultivate dental students with international perspective into taking leadership roles in the future of dentistry. We hope we have successfully built a bridge of good understanding between the two universities and that it will remain strong for year to come.





Introduction to the program

The dental training program in Japan is on accordance with a cooperation agreement regarding student exchange between Tokyo Medical and Dental University and Srinakharinwirot University. It is also a part of Comparative Dentistry and Foreign Externship elective course established for 6th year dental students. The purpose of this course is to create a beneficent medical and dental networking in South East Asia.

Information about the program

- Duration: 12th -25th October 2015
- International student support: return trip expense (air ticket), hotel accommodation cost during program
- Number of participant: 2 supervisor and 6 dental students

Application process and candidate selection

Applicants have to prepare required documents including an application form, and hand-writing essay about personal reason applying for this program.

In addition, students who participate in this program must meet the following requirements

- 6th year dental students
- Minimum qualification of 2.75 academic GPA
- Fine English skills
- Engaged in the dental student association events
- Interesting and eager to participate in international exchange program

Based on these criteria, the selection committee will select appropriate applicant for the next personal interview. After that 6 students will be chosen to represent Srinakharinwirot University by joining the program at Tokyo Medical and Dental University.

Opening Ceremony and Orientation

In the morning of October 13th, the first day of our two weeks-exchange program at TMDU, the opening ceremony took place at the special lecture hall, dental hospital building. Professors gave us a notable welcoming speech, which lifted the friendly atmosphere. We met all of our new friends, exchange students, from Vietnam, Indonesia, and Thailand. Firstly, we learned more about history and overview of TMDU from introduction presentation. Secondly, professors explained us about program's schedule and details on report submission. Then, we learned in the topic of the risk management in Japan that not only for learning in the dental university, but also for living in japan such as the instruction when the earthquake occur. We learned some basic Japanese language for daily life such as greetings, introducing ourselves (kon-nichiwa, watashiwa….desu), and tried to talk with friends. We gained useful information which would be applicable during our stay in Japan. After that, the friendship is beginning. We started to introduce ourselves and our country together

UNIVERSITAS INDONESIA

International Research Day

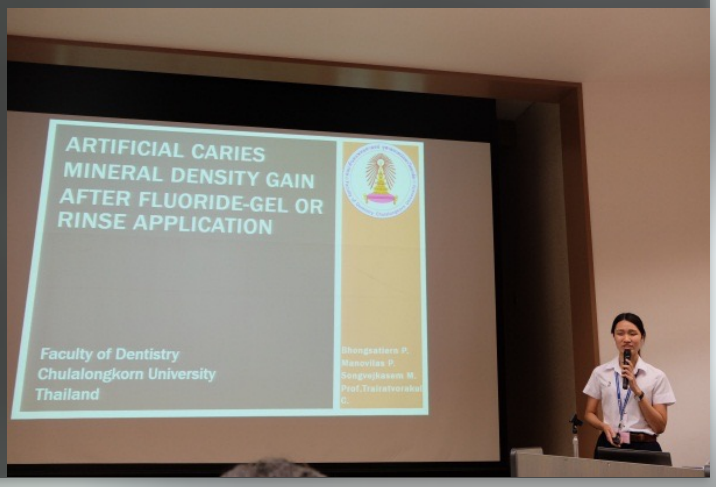
On research day, we had an opening ceremony in the morning by Dean Prof. Keiji Moriyama of TMDU. Then, we had a special guess from The University of Sydney, Australia; Clive Wright. He gave us a lecture about "Prevention & Minimal Intervention Approaches to Oral Health Care for Older People". As the age increased, the disability and dementia also increased. Not only the body slow down, but also accumulated the chronic disease which the body needed more medicine for treatment. Consequently, we need to improve the quality of older people by understand the changing demography of a nation, understand the multi-dimensions of "aging", look at population based approached to prevention & oral health maintenance, adopt a minimal intervention approach to older adult's oral health care, work within an expanded dental and allied health team and constantly monitor and look at new evidence.

(Lecture from Clive Wright)

(Lecture from Prof. Azuma)

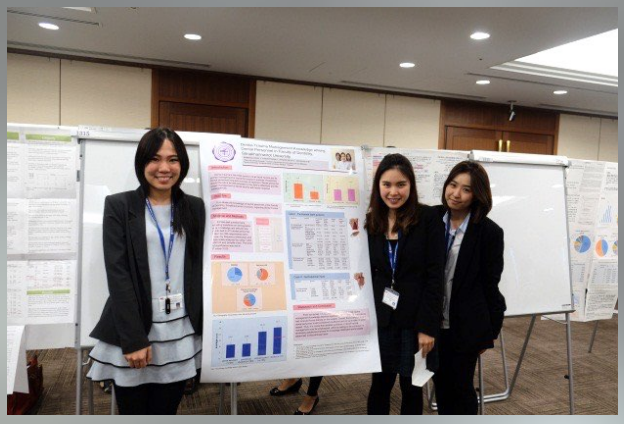
(Oral Presentation from SWU)

We need the effective dental team for the better oral health in residential care program. Another lecture we had from Prof. Azuma of TMDU is about “oral immune responses and regulation”. System consists of set of component and each component has behavior or function and the component interact with each other to form a complex whole. These components are T cell, B cell, macrophage and NK cell. The immune systems are comprised of innate immune system and adoptive immune system. The dendritic cell triggers both innate and adoptive systems and bridges 2 systems together. Dendritic cell is leukocyte with dendritic morphology which lineage MHC class II and distributed in whole body. It consists of the heterogeneous subsets with different phenotypes and function properties. After the lecture, there are the research oral presentations from Japan, Vietnam, Indonesia, and Thailand. There are 6 presentations from TMDU Japan, 2 presentations from UI Indonesia, 1 presentation from UMPH Vietnam, 2 presentations from CU Thailand and 1 presentation from SWU Thailand. After the oral presentation, we had the poster presentation from every university and had dinner together.



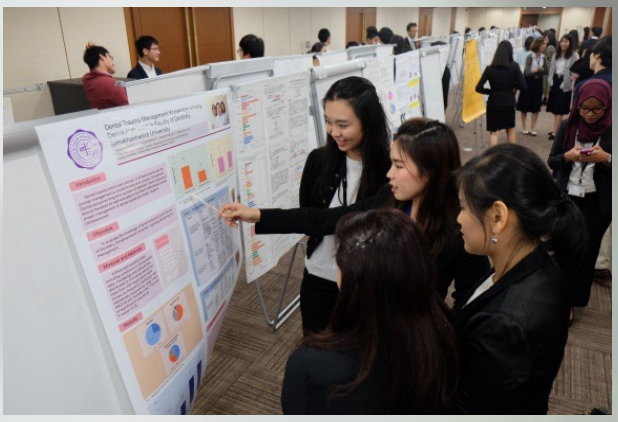
(Oral Presentation from CU)

(Oral Presentation from UMPH)

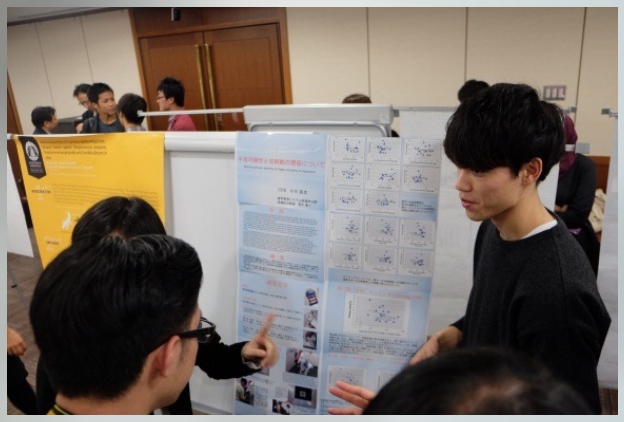


(Poster presentation of SWU)

The lecture from Clive Wright was very interesting and useful because now in Thailand we are in the age society. A lot of elderly people have been increasing every year. In order to improve the quality of life for elderly people and make a better health care, we basically have to know and understand the aging process and characteristic of our country. As working as a health care team, the better oral health will be. We can use this kind of concepts for improving the country's health care. For the lecture of immune responses and regulation, it was very hard to understand. But, it is actually very useful for the research. In order to do the research we need to review all the basic science knowledge. The gap of unknown knowledge might use to be the question for the research and it may lead to the new discovery which can improve the medical treatment for all people. For all the topic of oral presentations are very interesting. Everyone was well-prepared. They tried their best to explain their research even English is not their first language. In our opinion, Japanese researches were very nice and deep in detail. Their topics were very interesting and useful. However, their researches were kind of complicated and hard to understand. And, they are not really good to explain their research in English so it made the research harder to understand. For the poster presentation, there were so many interesting topics but unfortunately we did not have enough time viewing all of them. All the researches open our vision of view getting to know many new knowledge and new discovery. Some of them can apply to our treatment for the patient to have better one and may help dentist to work easier. Finally, at the end of the day, we had dinner together. It was very fun talking with many Japanese, Vietnamese and Indonesian friends. It was very good time to learn the different of culture, religion, life-style and the dental education system in each country. Moreover, we were so proud that Thailand got the second prize won in oral presentation.



(Poster presentation viewing)



(Poster presentation viewing)

(Dean of TMDU closing the research day)

Dental Company Visit

YOSHIDA

For a dental material and equipment company, Yoshida focuses on dental units and x-ray machines, which have been designed differently for different purposes. The technology of dental chairs invented by the company made starts from the very basic setting and goes all the way up to the advanced designs that can switch positions smoothly. Moreover, they also design a multiple usage room, which is used as a single small area that can be changed into dental office, meeting room, or living room. The designs and ideas were made to fit Japanese life styles, especially for limited areas in Tokyo. In the end of the tour, we watched video about the vision of the company and saw their plans in the future in dental fields.

GC

GC corporation is reputed for a dental company. The company headquarter is conveniently located only five-minute walk from TMDU. When we arrived the company, staffs gave us a warm welcome and took us to the meeting room to introduce us about the long history, vision, and mission of the company. GC aims to improve the quality of dental product to increase efficiency of their treatment. And we have an exclusive opportunity to visit the showroom displaying dental units and their products. There are many kinds of dental units that provide different benefits. First of them is a massage dental chair, it makes patients feel comfortable during their dental treatment. The second one is dental unit consists of microscope which make the dentist work more easily in a small space. And the last one is dental unit consist of microscope, vacuum and it can be adjusted in many position. Then, we saw CAD-CAM technology that used for dental fixed prosthesis. We have seen many types of dental material and tools either we have ever used or never used. The last place we went was Kamulier café, there are many kind of soft cake that made for old people who have dream to eat cake before they died and in this café has many products for old people to use such as a tray that prevent bowl dropping, a bowl that can be used with one hand to scoop up the food and a special design wood spoon.

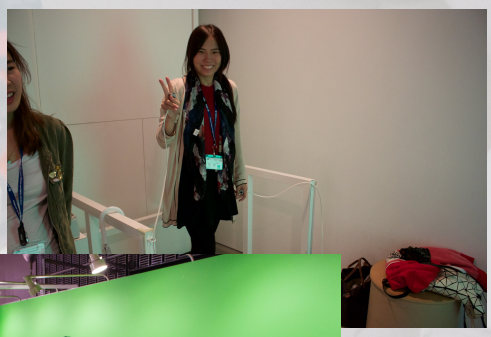
The National Museum Visit

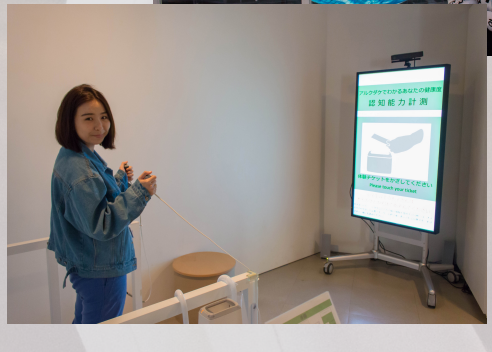
Miraikan Museum, Odaiba, the national museum of emerging science and innovation. Playing and learning process was occured in the same time. A lot of new technologies in Japan were shown in this museum. The first one was about heartwarming communication with robot. The therapeutic robot “Paro” is a robot that coexists with people. Its purpose is to encourage mental stimulation such as pleasure or comfort through communication with the robot. When rubbing its head, it will react with comfortable action because it feels happy.

The next is the mechanism of internet exhibition. In the internet, all the information consists of 2 kinds of digital signal, 0 and 1. In this exhibition, 0 and 1 are represented by white and black balls. Then we went to join next exhibition which its purposes are to evaluate gait personality and cognitive ability from walking by using camera and software to collect and calculate the data. The result displays about walking speed, posture, step symmetry and forward and backward arm swing.

After that, the demonstration of super intelligent and well-known robot, ASIMO, was performed. It can move as a human. Its balancing is so interesting. It can jump, run, walk and sing like a human do.

In the upper floor showed about the space and medical technology. The international Space Station (ISS) which was normally located in space was demonstrated in this floor. They told the story of astronauts how they live in space. Furthermore, there were many innovations using patient-friendly technology for medical treatment. Various new technologies are being developed to offer safe and reliable treatment. Robot technologies are also beginning to find application in medical care.





Teamwork Activity

In team work activity, all of us were divided into four groups. We were assigned to draw a portrait of our partner, who sit next to us, in 30 minutes. When we finished drawing, it was a quiz game that we had to guess who were in the picture and which group were able to guess most correct of picture would win this game. Other than talking to the partner, we talked to our team a lot because it was a funny stressful time while drawing and showing the picture to others. We knew some more friends from this activity while watching other team guessing. It was a fun game to make new friends, get to be closer with the friends and practice the long lost art skills.

Laboratory and Clinic Visit

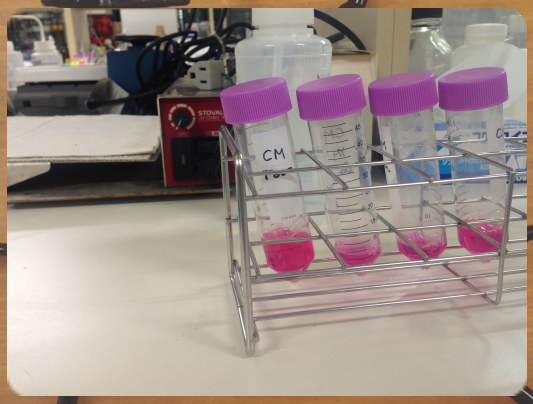
For this activity, we were assigned to different laboratories and clinics, so this part was written individually according to the department we make a visit. Even though, we learned about different subject and lessons, what we gained in common were invaluable experiences and broaden perspectives about dentistry both clinically and research study.

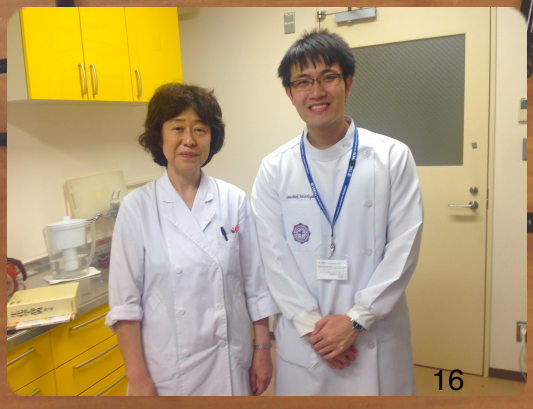
Anesthesiology

Located on the 7th floor of TMDU, the Anesthesiology department provides ambulatory anesthesia services. Dr. Fukayama, who is in charge of the department, took us on a tour and explained many different types of sedation procedures as well as how to monitor patients during treatments. One of us volunteered as a patient, whose vital signs including heart rate, oxygen saturation, blood pressure, consciousness, and brain functions (EEG), were studied. Furthermore, Dr. Fukayama introduced us with the university's automatic local anesthesia injection machine or "Auto-injector." This novel invention can inject anesthetic drugs with a consistent flow while providing relaxing music to patients at the same time, allowing for more effective dental procedures, especially in PDL injection. Lastly, we had an opportunity to observe a general anesthetics prescription to a patient in an operating room.

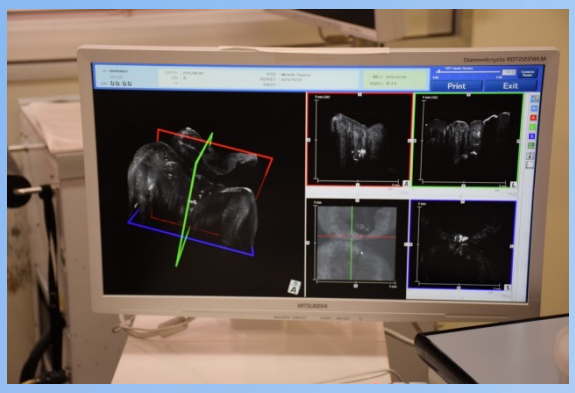
Biochemistry

Biochemistry department was a very fun place to visit. This department is supervised by Ms. Miki Hara-Yokoyama, who looks after the students and also assists them closely in laboratory workshop. We had a lecture about different types of chemical bonds with molecular models and had a chance to conducted an experiment about the effect of cell dead. “Intracellular actions of S1P for cell death” which was the name of the experiments we conducted that last for 2 days. With fun and informative teaching style, Biochemistry has turned into something rather fun and easy to grasp than a difficult subject.





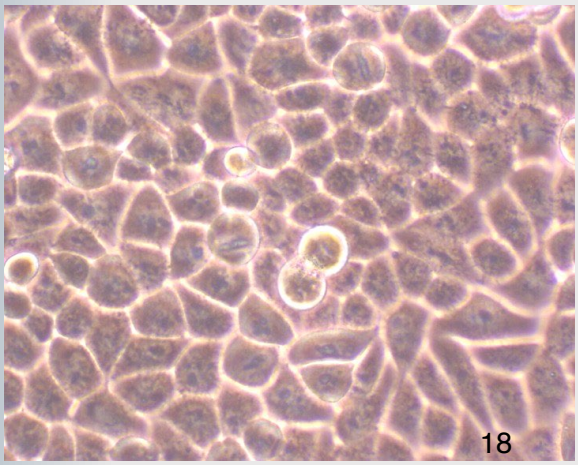
Cariology and Operative Dentistry



From the department of cariology and operative dentistry, we learned that their work was to improve the dental treatment such as classification of the dentine thickness into two layers, developed the total etch adhesive and “Super tooth Concept” of professor Junji Tagami. The Super tooth concept combined the part of pH (saliva, food, drink), cariology (biofilm), biomaterial (bonding, composite), photonics(laser) to improve the oral health care which possible to keep the better condition teeth. In the research and laboratory part, there were many interesting laboratory equipment such as the universal strength testing, the micro tensile bond strength test, SEM, TEM, and the interesting is Optical Coherence Tomography (OCT) which could scan from surface to the deeper area and display the result similar to x-ray, without using the x-ray and could show the real time pictures. So the dentists were able to detect, diagnosis, and have a suitable treatment.

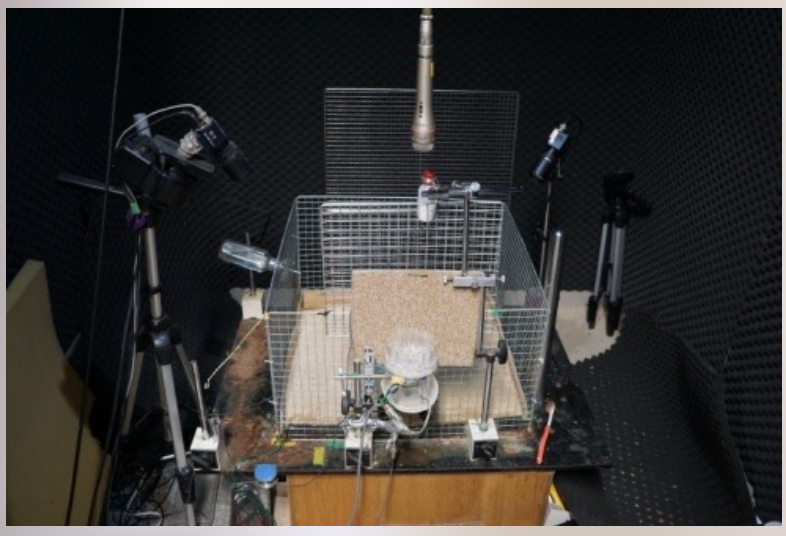
Cellular Physiological chemistry

The department of cellular physiological chemistry. This department concern in the cell function. So, there are many laboratory process that involved in the study such as cell culture to observe the morphology and growth of cell such as cancer cells and the reaction in each factors that intervention such as bacteria, virus etc. by use the equipment such as LASER microscope, cell counter. In this program, I culture the cancer cells and study in the functions compare with normal cell. It looks interesting and challenging.

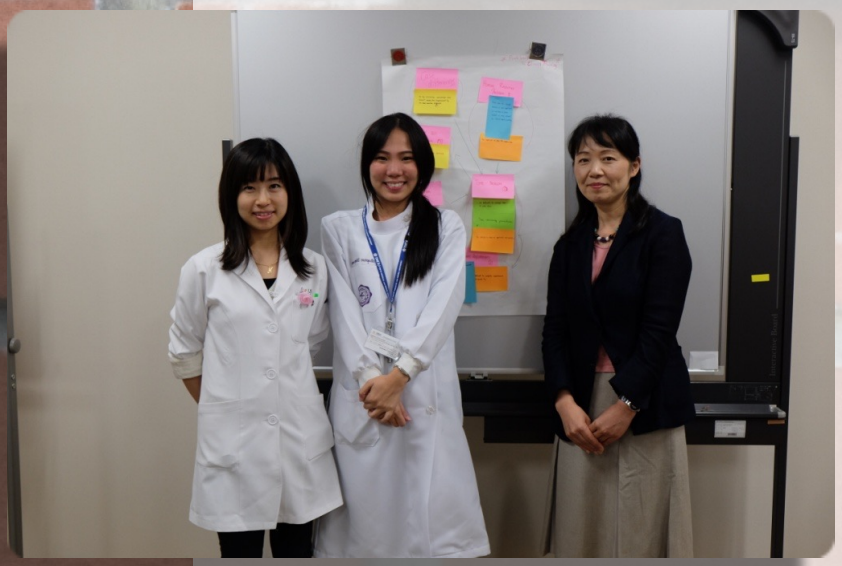


Cognitive Neurobiology

Cognitive neurobiology, its main studies were about the higher function of the brain. The day we went, the professor showed idea of how to understand the human's brain by the sample of rat's brain. Since, the rat could not talk, so he assumed that the same reflection on food of the rat means yes/right/correct. What he was studying right now was that what kind of the modified voice that the rat could recognized which could be related to how people could understand the words other than the original sound. There were many complex machines to prevent any errors of the study which showed the reliability of the upcoming result, and so sure that the results of this study could be applied for the many useful further studies. The professor did not only pay attention on the study, he also paid attention to the samples, the rats, too. He told us that he could not do the study all the time because once he had a sample, thus he had to spend a lot of time with it with love and care. The professor had showed the gentleness of how human should be.



Dental Education Development



In dental education development department, we had a great opportunity to meet Professor Ikuko Morio. We learned about dental education situation. In Japan, there are 27 dental faculties, consisted of 11 national universities, 1 prefectural university, and 17 private universities. After student graduated from high school, they are able to join into dental student program for 6 years. In TMDU, clinical training starts from second semester of 5th year for a year and a half. Before they finish 6 years learning, they have to pass national examination and then they could study in post graduated clinical training. Afterward they can join to graduate school, private clinic, hospital or ministries. Interprofessional education aims to make dentist have medical knowledge because they have to work with other medical personnel in the future. Extraction for research is an elective in group decision making and group consensus. We wrote our opinion in topic of “Problems in dental education improvement” in a big paper and divided those problems into group and named the group. Then we made a relationship between each group by using an arrow. The last step was set the priority in each group and figured out the solution of problem. At the end of this activity, Professor gave us a considerable idea that was “If we want to know that the solution will be effective or not, we have to do research in interested topic”.

Dentistry for person with disability

Dentistry for person with disability was a part of special care clinic that their field were to treat the persons with medical compromises, mental disease or mental problem, abnormal development, and other complication conditions that need special care which were hard-to-understand persons, persons who are unable to maintain normal movement, communication-disability persons, persons with dental phobia, and the under-medical-care patient. The goal for the treatment of this group patient is to prevent the further carious and periodontal disease because of their disability. The nitrous oxide gas sedation and medical restrainer were used in these patient groups. In this clinic, we had an opportunity to be as the operator and the patient for nitrous oxide sedation for the first time.

demonstration how to put on the mask

The steps for nitrous oxide sedation are monitoring the vital sign and recording every five minutes, put on the mask, start turning on the gas with 100 percentages of oxygen, then increasing 10 percentages of nitrous oxide each time. Maximum of nitrous oxide usage in normal people were no more than 30 percentages. After finished using nitrous oxide sedation, the oxygen needed to be flushed to 100 percentages for 2-5 minutes, preventing hypoxia, patient should feel fully awake before allow them go back home. When I tried being a patient, I felt no uncomfortable, until 20 percentages of nitrous oxide, I felt sweating and numbness, so did my friend. Couple minutes after the uncomfortable of 20 percentages of nitrous oxide, I had felt relaxed. I also had tried at 30 and 40 percentages of nitrous oxide, as the nitrous oxide increasing, I felt more relaxed and lost more sensation of pain (as I tried biting my tongue). It was a great opportunity to experience and understand the feeling of the patient who had to be restrained, put on a mask, and being sedated. Without this department, we do not think we could have these precious experiences elsewhere.

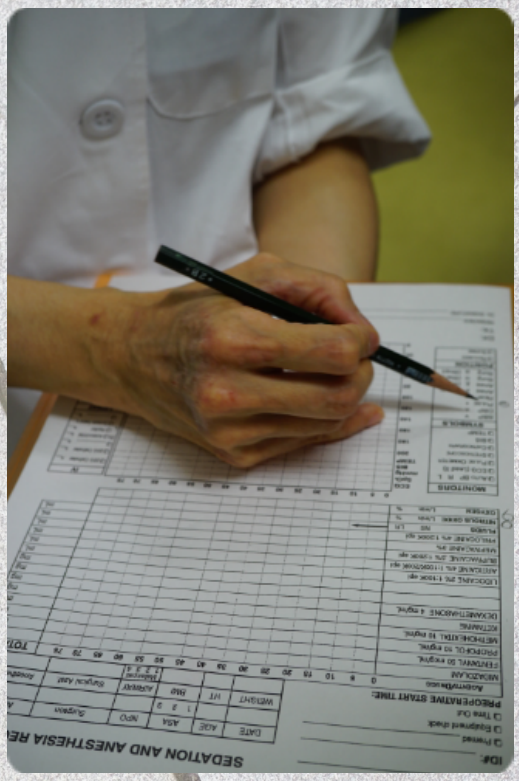


Chart recording during nitrous oxide sedation

Diagnostic Oral

Diagnostic oral pathology laboratory department was in dental building north, 6th floor (room 614). We had Takashi Okawara, who is the 4th year-graduated student taught us about the department of Diagnostic oral. This department educated dental students, clinical treatments, and research for surgical pathology. Okawara told us that the important part of the work is the relationship between a doctor and a medical technologist because, unlike doctors, the medical technologist cannot offer the treatments to patients, only the doctor can; however, the doctor needs medical technologist to do the laboratory of specimen examination and provide the result to doctor in order to give correct treatment plans to patients. After Okawara gave us a lecture about laboratory examination, which was blood count, biochemical exam, blood transfusion, physical, pathological, and bacteriology. He took us to the research room in medical building and showed us some of the medical reports of the hospital. At the end of the class he recommended us a book about the biology of cancer to read in order to understand more about the department and protocol of cancer treatment.

Maxillofacial Orthognathics

Maxillofacial Orthognathics department provide treatment to the patients with wrong jaw relations, cleft lip and cleft palate included. We learned about 3 cases studies and had a chance to look around the clinic and laboratory. One important thing about orthodontic treatment is that over 70% of a successful treatment come from good treatment plan.

Operative and Endodontics

In the morning of Oct. 22nd, we made our first stop at the operative dentistry and endodontic department at the dental building north on the 5th floor of TMDU. During the visit, we learned about the workflow and culture of the department and also noticed how dental equipment at this university differed from ours at SWU. In a caries removal procedure, some dentists at TMDU made use of caries checker solution to ensure that there were no caries remnants left inside a tooth cavity by looking at remaining stains. Toward the end of the laboratory, we participated in a workshop on endodontic treatment on a tooth-like synthetic box.

General Dentistry

General dentistry is the department for training dental student, and dental hygienist. So, this was a great opportunity to learn about all dental school in TMDU. In the pre-clinic laboratory, the education system help student a lot in self-learning such as watching video before the practice, and the live camera in each unit. So, the students can do by themselves and the teachers can watch every student thoroughly. In the dental practice, there were a 3D simulator machine which able to reduce the cost in material and equipment and dental students possible to do in the same situation if they want to improve their skills before treat real patients.

Gerodontology

In the work field of Gerodontology is basically treatment for the elderly people. They provide the best treatment that is suitable for each conditioned patients. Most of their work is Prosthodontics and Oral surgery. 65 years old patient with systemic disease will get into this clinic. Every morning, dentists have to discuss each case which they have to do. At the unit, dentists have to monitor the vital sign all the time.

(Monitoring the vital sign)

And, when they have the surgery case, the nurse from medical hospital will come to dental hospital to help in operating room and in in-patient ward. Furthermore, we had a chance to see their research on magnet implant over denture. They studied the relationship between denture and body function. We learned that people with denture have more standing stability and walking stability than people who lost the teeth without denture. They did the stress analyze of the implant over denture to see which part of implant is easy to break the denture. Resilient denture lining material is used for the patient who cannot wear hard denture (extraction case). The CAD/CAM system for fabrication completed denture has been developing. The evaluation of masticatory performance using color-changeable gum is used in the research. We will know the force of mastication through the changing color of gum after chewing.

(Color-changeable gum)

(Color-changeable gum)

Dysphagia rehabilitation is done for elderly cancer patient, cerebral infarction, occult aspiration screening. In general, Gerodontology field is all about whole body management while dental treatment, diagnostic procedure for dry mouth, oral stereognostic ability of elderly, threshold level of mucosa under denture, occlusal balance censor of dentures with accelerometer.

(Gerodontology department)

In the department of Gerodontology, we had a very warm welcome. The system in the department was carefully designed for elderly. They paid attention in every details of elderly condition. For example, the real time monitoring vital sign is the must for every patient in this department. They have to discuss every case before treatment that will help the dentist to get the best treatment for elderly patient. The team approaching is very useful. We will get the suggestion from every field of dentistry which make us realized the thing that we might miss before the treatment.

(Adjust and insert overdenture)

Besides, the PhD. student who took care of us is the dentist graduated from China. She shared a lot of her experiences of studying here. She had a very hard time in the beginning because they could not speak Japanese. However, she tries to get through it and finish her PhD. degree. And, she thinks it was a great experience studying in Japan.

Health Care Economics

Health care economic was placed in the stream of the area of medical policy whose goal is macroscopic integration of medical and dental care. Health care economics deal with efficiency and efficacy of medical and dental care, on the basis of medical ethics and health care education. In health care economic department, we learned in small group, just three persons including Indonesian, Vietnamese, and Thai about each country health care system. At first, we learned briefly about health care financing and service provision, by stage of economic development of three countries-Japan, Indonesia, and Thailand. Japan was evaluated to be in stage III which is higher income countries, Thailand was ranked in stage II, middle-income countries, and stage I, low-income countries, for Indonesia. Professor displayed the table of overall health care financing and service provision which included information about general revenue financed and donor assistance, social insurance, private insurance, and self-pay, so it made us easily understand in the difference of health care financing of each country not only Japan, Indonesia, and Thailand. Then, we learned from the research about each system. And the last, we discussed together about each system of each country in the topic of equality and equity. We really enjoyed learning in this class because it made us have more knowledge and adjust our attitude in many topics not only in dental treatment, and learned the strong point and weak point in each system which we can use them to adapt to develop our country's system to be better.

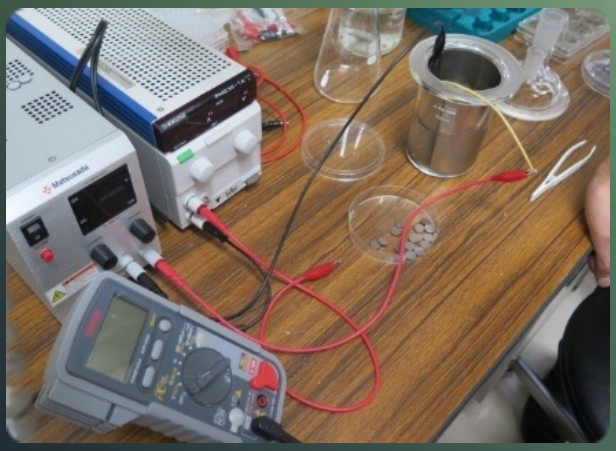
Implantology and regenerative central medicine

From this department, we learned about prosthesis patient (implant), bone healing and bone regeneration. Some patients needed to have higher alveolar ridge to support the implant, so it was greatest opportunity for us to observed during the operation in 2 cases. Nowadays, the most type of bone that used for bone graft is xenograft (bovine), and synthesis bone (hydroxyapatite) by 0.5-1 millimeter particle. Using somatic stem cell to promote bone regeneration is one of the issue that they are studying now. Implant surgery was operated under general anesthesia. So, doctor can manipulate patients, and patients do not feel fear.

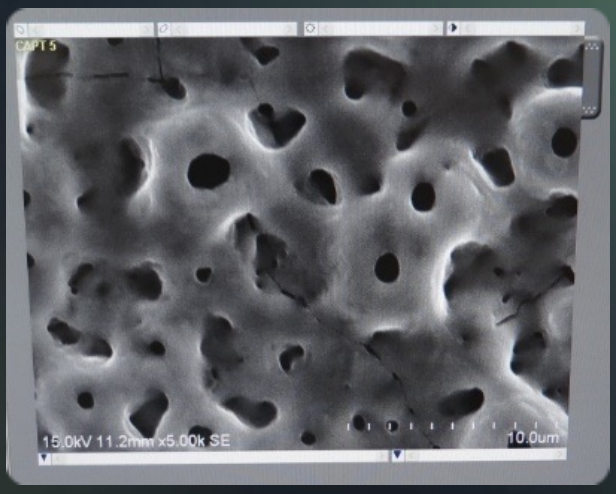
Inorganic Material

In inorganic material department, they basically study on the property of material and their biocompatibility. Most of their researches aim to make the inorganic material to be biocompatible with tissue. Firstly, the teacher took us walk and look around the department. After that, he showed us 3 experiments.

The first one was coating the titanium with Calcium Glycerophosphate and Calcium Acetate solution in order to make the surface of titanium to titanium dioxide which is similar to bone surface. Therefore, it helps to generate the osteointegrated process. It is very useful for implantology which titanium is the first choice material to make implant and we need the osteointegrated process to make the treatment successful.



(The process of coating Titanium by using electricity)



(Titanium surface after coating under SEM)

(In the process of making coating solution.)

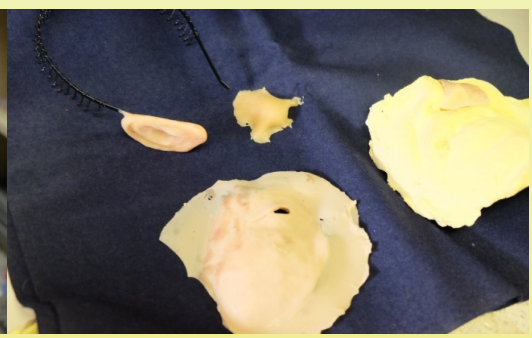
The second experiment was to study the Alkaline-Phosphate activity (ALP ASS) of osteoblast in inorganic materials. If the activity rate is high, that inorganic material is able to promote the formation of bone tissue. This activity is very useful to classify the ability of promoting the formation of bone tissue in each inorganic material. We will able to choose the right material to the right job.

The third one was to show the study on Zirconia implant and periodontal ligament cell. Nowadays, the zirconia implant is not able to generate the osteointegrated process. So, this study is aim to see “Is the zirconia implant able to attach to the periodontal ligament cell instead of the bone?” and If they success we will have implant that have less esthetic limitation.

At the inorganic material department, we learned a lot of thing. Everyone in this department is very caring and nice. In our faculty, we do not really have much high-technology equipment and not too much research in this topic. Hence, we were very appreciated this visit. We had an opportunity to do many experiments. It was very enjoyable and useful. We had a chance to mix the solution of coating solution by ourselves. Additionally, we have learned a new innovation of zirconia implant which is very remarkable and beneficial if they success in this research. The Zirconia implant will remove the esthetic limitation of titanium implant. We will have more choice for patients to choose the material of their implant. Dentist and patient will be happier.

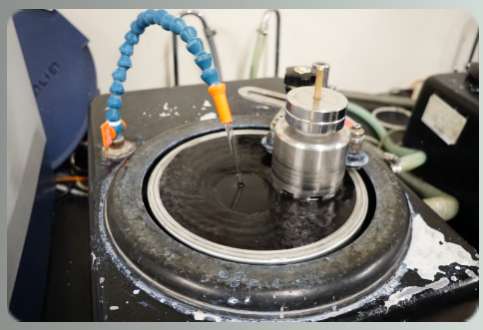
Maxillofacial Prosthodontics

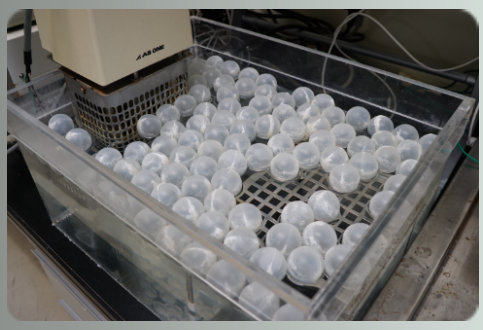
In maxillofacial prosthodontic clinic, we met Professor Masumi. Maxillofacial prosthodontics is a department which treat patient who have defect in head and neck area. When tumor was removed, it caused a hole in the area. Normally, we could find movable and unmovable area to stabilize denture, but in maxillofacial patient we cannot find the unmovable area so it will be more difficult than normal situation. Piezography is the method used for recording the neutral zone (potential denture space by using silicone impression material or modeling compound. We had a chance to take facial impression in this class. We started with wrap around friend's face by tissue paper then mixed alginate powder with water in 4:1 ratio of alginate powder: water. Brought mixed alginate to pour it on her face and applied the small piece of cotton on top. Then, we poured the fast set plaster which name is xanthano to her face and waited for plaster to set. Then, sensei removed facial impression from face. And pour stone into facial impression to get facial model.

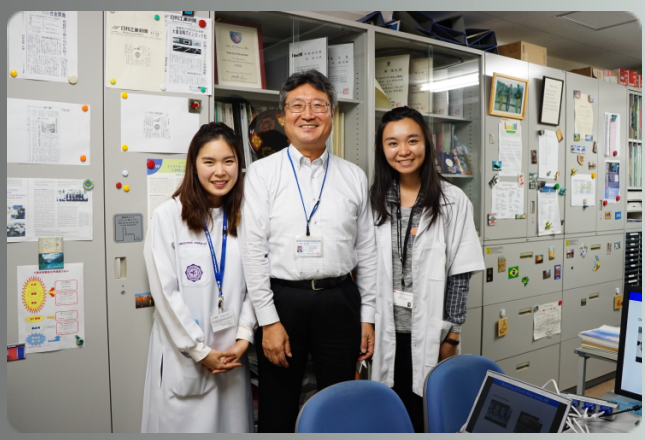


Metals

We went to the Metals department to learn about the usage and the development of the metals especially Titanium and Zirconia. In dentistry, we used the metals for several things such as dental implant, dental restoration, periodontal probe, scaler, orthodontic wire, crown which more than 80 percentages of the materials consist of metals. The advantages of the metals were the large strength, the elongation, and the fracture toughness with some of its advantages such as the corrosion, the fatigue, and its metallic color. The manufacturing processes of the metals were melting, casting, forging, working heat treatment and surface treatment for developing the biocompatibility and bio-function property of metals. There were many ways of the surface modification such as Micro Arc oxidation, Plasma spray, Acid etching. The trend of the metal research is about developing in surface modification technique which the progression on commercial level now in the third generation, physiochemical active surface, and the progression in research level now in fourth and fifth generation, biochemical active surface and biological surface.

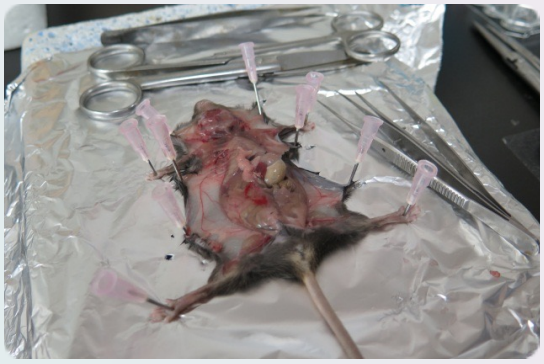


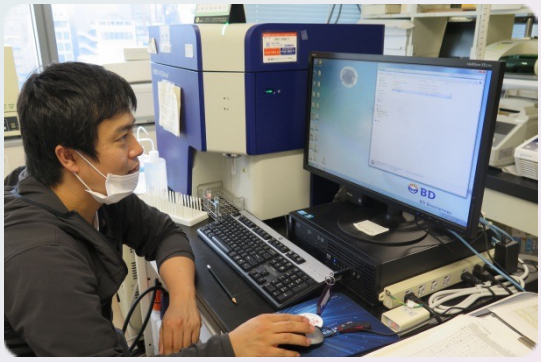




Molecular Immunology

At the department of Molecular Immunology, a person who was in charge took us to see around the department. He explained what we would do in lab today? We used KikGR mouse system. The skin of KikGR mice were photoconverted by exposure to UV. After that, the same region was painted with a skin irritant (acton: dibutylphthalate mixture). After 24 hours, the sections of lymph nodes were examined under confocal microscope. The UV exposure cell would change the color from green to red cell. Nevertheless, we had only 6 hours for the experiment, so we did another thing in the same concept. We used 2 KikGR mice. The first mouse was exposed by UV light at the mandibular lymph node for 1 minute. The second mouse was the control one.

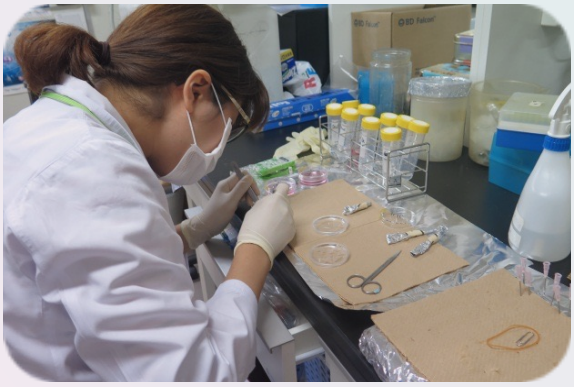


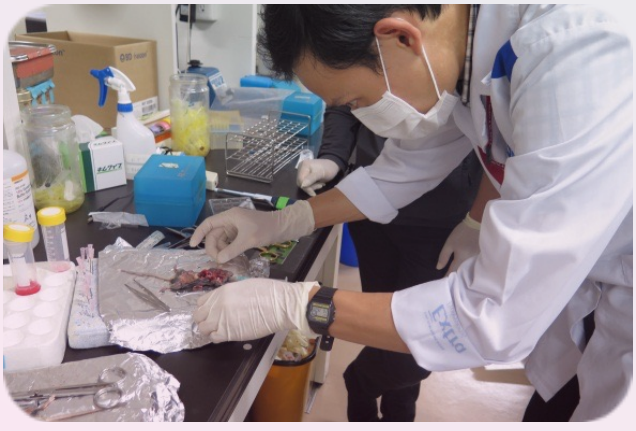


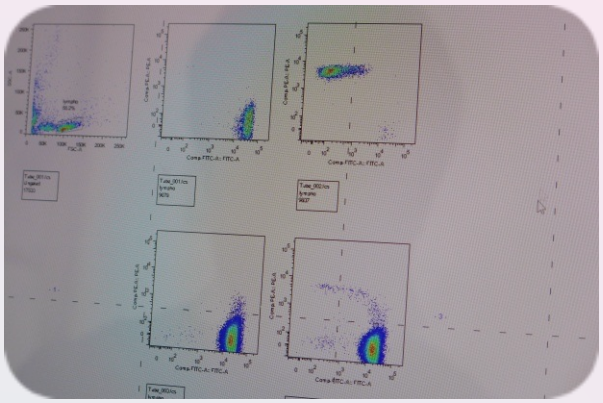
After 3 hours, we dissect the lymph node and spleen from both mice.

Then we used the FACSVerse machine to analysis the immune cell of samples.

The cells that exposure to UV light would converse their color from green cell to red cell. For the exposure mouse, we could see all the red cell at the lymph node because it was exposed to UV light. Moreover, we could also see the red cell in spleen. It means than those red cell seen in spleen migrated from the lymph node. We could see how the immune cell move and work.



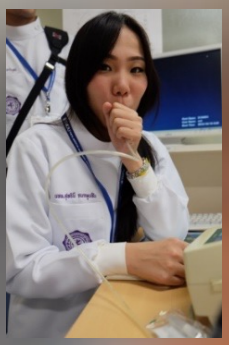




From our point of view, it was very fun having the experiment with the mice. We had an opportunity to do some of the experiment process by ourself and got to know the very effective machine “FACSVerse” for analysis the immune cell. The technology here is very effective and updated which is very useful for the precise result. We had a chance to learn what they did here. All the result from experiment here may eventually become a big new discovery which can change the world of medical. They might discover the new treatment for the patient to have the better life. However, it was very sad that the mice had to be killed. Moreover, before lunch time, we had a chance to talk to Prof. Azuma. She is the expert of immunology. She opened our vision of how immunology is important for dentist. Now, she is working on finding the immune cell that is able to kill cancer. If this research is successful, we will have such a new alternative treatment for cancer. The cancer patient would suffer from radiation and chemotherapy lesser.

Oral and Maxillofacial Radiology

In oral and maxillofacial radiology department, professor lectured us briefly about basically knowledge about the cancer, the treatment, and radiation therapy. He explained us about 4Rs of radiotherapy which consist of re-oxygenation, redistribution, repair, and repopulation or regeneration. He told that in Japan the most oral cancer is squamous cell carcinoma which is the same as in Thailand. And then, he took us to look the x-ray machines that use in radiation therapy and explained how each of them work.






Oral Health Promotion

In the fresh breath clinic at the department of oral health promotion, we learne briefly about halitosis and had a great opportunity to try the malodor test which included three types of test (Breathtron machine, organoleptic and gas chromatography). Breathtron is malodor assessment machine that used for mouth air measured by semiconductor gas sensor. The organoleptic is the test by the dentist stay behind the board that has the hole, the patient sit in the opposite side of the dentist, and then the dentist smell the patient breath and give the score. The gas chromatography is the test for measuring the volatile sulfur gas consist of hydrogen sulfide, methyl mercaptan, and di-methyl sulfide. Professor explained that the best time for measuring halitosis is in the morning because it will have the highest level of malodor.

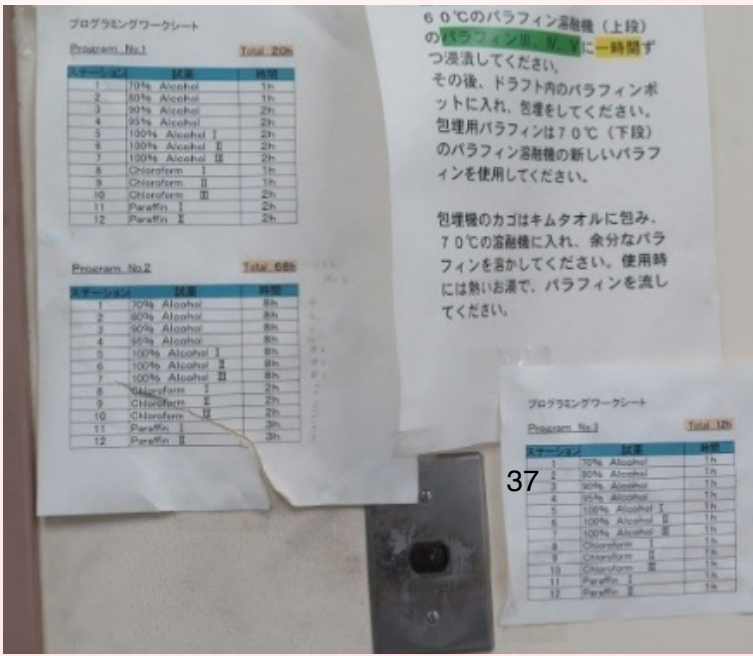
Halitosis causes by many reasons-tongue coating, gingivitis, low flow rate of saliva, dental plaque, dental caries, and systemic disease respectively. Since the main cause of halitosis is tongue coated which is estimate ninety percentages occur in halitosis patients, so in one step of treatment protocol is tongue brushing. Tongue brushing is the important method, and the area that we have to brush is the posterior area of tongue because the anterior area has self-cleansing when chewing or swallowing. The Professor explained that curing halitosis patient is easier than halitosis-phobia patients because the halitosis-phobia has the cause from psychology or neurology and they will not believe what the dentist explain. For your information, the treatment of halitosis is not included in health insurance of Japan.

Oral Pathology

In oral pathology department, their work is mostly based on pathologic diagnosis of the specimen from the patient, research on oral cancer especially squamous cell carcinoma. They study how the squamous cell carcinoma developed. At the department, the teacher showed us all the equipment used for research and diagnosis such as fluorescence microscope, laser cutting machine, dry sterile machine, centrifuge machine, tissue PCR machine which are very new and updated version.

He showed the general work field in this department for example how they fix the tissue, how they do cell culture.

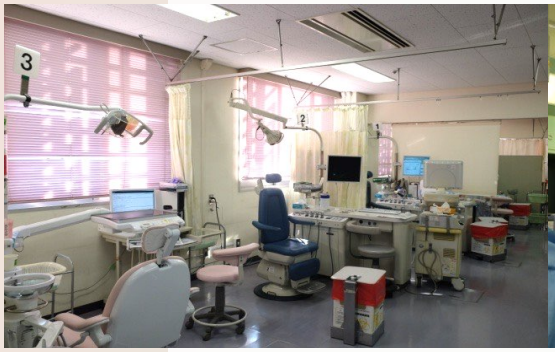
Furthermore, he took us walked around to the hospital in the department of pathology. He showed us how pathologists work together to diagnose the specimen. He let us see the real specimen excised from the patient who has the tumor at tongue which is finally diagnosed of fibrous hyperplasia. Another specimen is excised from palate which is finally diagnosed of epithelium hyperplasia. I have learned the different of cell between fibrous hyperplasia and epithelium hyperplasia through the microscope. Fortunately, there is a Thai dental student for Ph.D. program in this department. So, she took us to look around her work field and research. She is working on the notchRNA and notch protein which is tumor suppressive cell. So, the removing of this gene or protein will cause the tumor. She does this research both in Vitro and in Vivo. She also showed us the method of transfect siRNA which is the method to block notchRNA to change into notch protein.



We had such a warm welcome. The teacher was so nice. We have learned a lot of thing and know more detail about this filed. We had an opportunity to see the experiment both in Vitro and in Vivo. We had the new wonderful experiences such as seeing how the pathologist work in the hospital and how the doctors from different field work together to treat a patient, seeing the actual case and specimen from the patient and seeing how they do the experiment on mice and cell culture which needs a lot of accuracy. Moreover, we saw a lot of high technology equipment that I have not seen before.

Oral Surgery

In oral surgery clinic, Mr. Kabasawa let us to observe in operating room. Before going into OR, we have to change our cloth into uniform. There are many color of uniform that have its own meaning to show status of people who wore it such as green color is for female dental student and blue color is for male dental student. There are 3 operating rooms here. First case that I saw is 54 years old female who came with ten years of sharp pain. The oral surgeon treated her by approach from front of auditory canal into TMJ.



The second case is 45 years old male who has tongue cancer and already metastasis to his lymph node. The oral surgeon plan to take 10 hours for this operation. Treatment plan of this case is to remove cancer from lymph node by neck dissection and then approach to tongue and remove cancer in this area. They decide to remove skin from patient's forearm to use in reconstructing in neck area. So they do neck dissection and remove skin in the same time. Then we went back to out-patient clinic and observed a follow up case. Patient of this case has a radicular cyst that was removed 1 week ago. Today she came for follow up and stitched off sutures. Mr. Kabasawa said that in Japan dentist choose to use nylon more than silk to suture for preventing inflammation.



Orofacial Pain

We were so excited by seeing some spectacular things in orofacial pain clinic. Professor Mashita gave us a lot of new knowledge about pain management in oral field at lecture room. In orofacial pain clinic, Dentists have to manage disease and symptoms of pain, abnormal sensation, sensory paralysis and motor paralysis. Clinical examination can be done by several ways such as sensory test, psychological testing. There are 3 types of psychological testing; SDS (self-rating depression scale), TMI (toho medical index) and STAI (state-trait anxiety inventory). Management of orofacial pain depend on patient's symptom. Medication is usually use for relieve pain. Kampo is a kind of drug that is most popular in pain management in Japan and it has been made from many kind of herb. Electroacupuncture in arm area is frequently used to treat tooth pain. Super Lizer is a linear polarized light therapeutic instrument which provides a high output infra-red ray and used for treat abnormal sensation or pain. The most important point to treat orofacial pain is to use both physical approach and psychological approach. When orofacial pain patients come to treat their symptom by physical approach in TMDU, they also receive psychological therapies such as autogenic training, music therapy and education group therapy. We went to orofacial pain clinic to observed 2 cases about patient treatment procedure that provide by Mr. Mashita. He used Super Lizer to treat patient who has numbness on her tongue. And second case he used Electroacupuncture in patient who has numbness at right lower lip area. Finally, we had a great chance to try Von-Frey test on ourselves and also used AC iontophoresis and music therapy. We think that Japanese people was so lucky to have many good medical staffs and equipment to treat their sickness.

Orthodontic science

The department of Orthodontic Science, Dr. Tano said “orthodontic treatment is so interesting because it is able to find the subsecret after others treatment so we have to figure it out”. He explained that after patient-dentist conversation, the orthodontist has to take a photo of the patient in frontal view and saggital view. The patient should sit as natural, close their mouth and smile to the camera.

After explaining us about taking photograph before and after treatment Dr. Tano gave us the assignment for brain storming about orthodontic cases, consulted our treatment plan with Taiwanese PhD. student and we told the result after discussing to him about the treatment plan. But, Dr.Tano suggested the other alternative treatment plan which is orthotransplantation. After that the professor showed us a lot of slides presentation of his cases. Then, the professor Tano taught us about orthotransplantation which is one of choices for patient in TMDU possible to treat in orthodontics treatment.

And, I found that this method has high successful rate estimate to 85-93 percentages in Japan but it could be the cause of root resorption or ankylosis to the arch. The advantage of orthotransplantation is the patients still have the sensitivity as normal when eating or chewing because the orthotransplant tooth still have the PDL that was regenerated by emdogain solution for promoting bone support. However, this method is able to use with the patient has the tooth for autotransplant only so in many patients should have treated with other method such as implantation or fix prosthodontics treatment. From case discussion, made us understand how orthodontists think. There were many alternative treatment plans that possible to use in each case but finding the proper treatment is depended on several factors.

Pediatrics

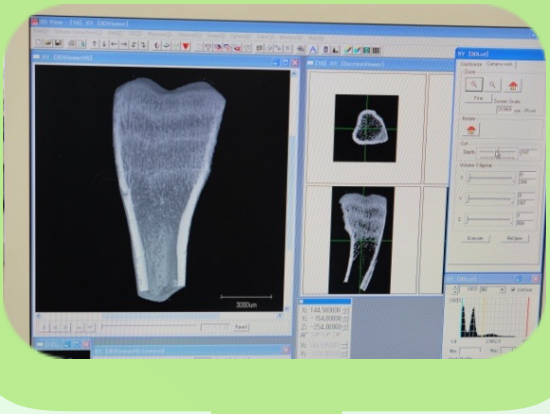
The pediatrics department's fields of work were to treat and prevent dental disease. They were age-defined specialty. The children would be treated here until the apex of their second molar closed. Pediatrics dentists had to be careful to not make child scared and become the phobia in the future. Most common chief complains and treatments were dental caries, occlusal guidance, trauma, soft tissue abnormalities. Majority of their preventive works were applying the fluoride, sealant, and sugar analysis. To lessen the children's fear during the treatment, they needed to have the children's attention by describing the treatment in understandable way such as they called the suction as the vacuum, the rubber dam as the raincoat which was different than in Thailand, we called the suction as a straw to remove the water, and rubber dam as an umbrella. The behavior management for uncooperative child in Japan is the medical restrainer that I have never seen before, was claimed that it was more comfortable than papoose board. There was the endodontic meter for measuring the depth of the preparation and thickness of the lining and this meter is also totally new to me. The EDTA and sodium hypochlorite was measured and came in disposable ampoule. The trays were made of strong plastics that had slots like food tray which seem to be more useful than the plain tray. The laboratory was well-managed as in the picture. To me, the Pediatrics department is the eye's widener.

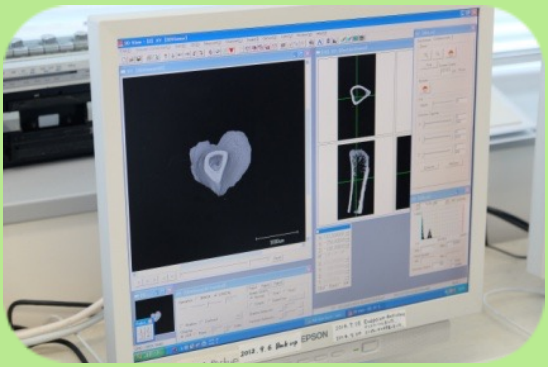
Periodontology

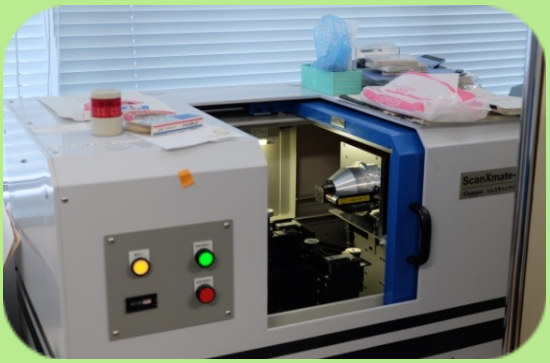
In this department, professor took us to look around the clinic, he explained that in this clinic they called “conservative department”, so the dentists possibly to give any treatment to patient if they need or confident to do, and for periodontal treatment they have to treat by themselves without assistance and because this clinic is conservative department, so they also could do prosthodontic treatment too, but sometimes maybe refer to specialist if it too complicated. Professor took us into the surgery room during the treatment, thus it was the great opportunity for us to learn about the machine and equipment inside surgery room that we have learn in lecture such as Yag- laser, professor explained that in this clinic use this laser for surgery because it possible to stimulate healing and kill bacteria, but they do not use for remove caries in this clinic. In surgical room, they have to share with endodontic treatment, so during visiting we have an opportunity to see endodontic surgery for the first time and observe using Yag-laser for remove granulation tissue which have low affect to bone. After that, we went to the meeting room for listening about their research.

Pharmacology

My Vietnamese friend and I attended a Pharmacology department in M&D tower for 2 days. On our first day, teacher let us see micro computed tomography (microCT). This machine works by release x-ray beam from their source and run through the sample in holder then absorbed by receptor in an opposite side. After that we will get a 3D pictures of sample on computer screen.

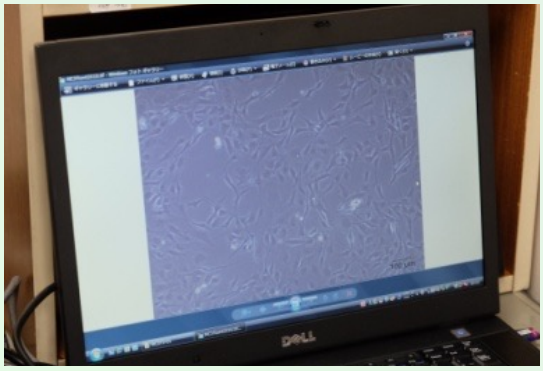


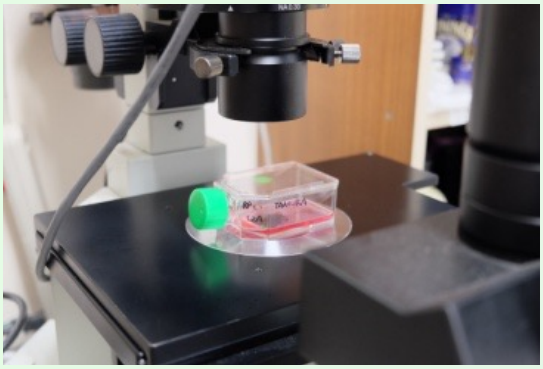


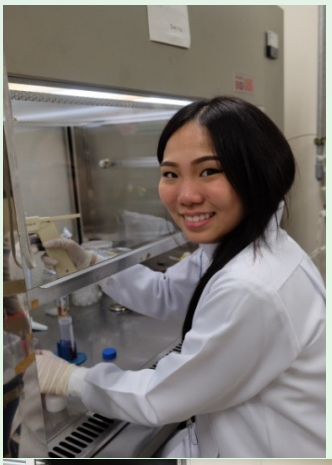


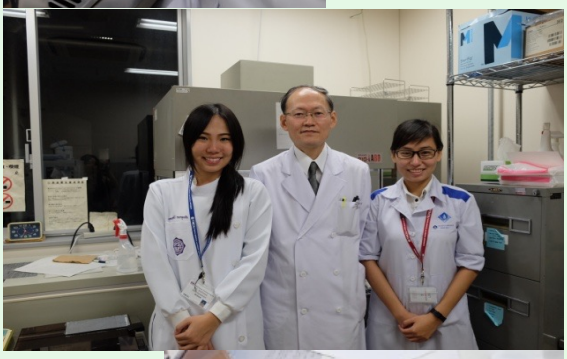
The purpose of this experiment was to study the effect of Bisphosphonate (bone resorption inhibitor) to bone resorption action. Control specimen of this study is Vego. Sample of this study came from Tibia bone of rat. While waiting for the operation of the microCT, we went to bio-matrix department and met Mr.Yukihiko Tamara. He showed us how to use micropipette for precisely measuring the level of sample and let us try to use it by ourselves. The micropipette will be used for only one time to avoid contamination. After that we went to another room to do cell culture. Mr.Tamura collected his cell in nitrogen tank which used for store many kind of sample for long time in very low temperature. Cabondioxide incubator is used for store sample in 37 Celsius. There are 2 Co_2 incubators in his room for use in case that one of them is out of order to protect cell died.

Then, I try to use microscope to detected dental pulp cell (RPC C2A) shape. Green filter is used for easier detected cell shape than another color. First step to do cell culture is bringing out sample tube from nitrogen tank, then mix cell medium with fetal bovine serum(FBS) into 10% concentration. Then, bring it into centrifuge machine to separate the cell from medium and then move it into plate. The last step is moving the plate to CO_2 incubator and we can see its result in next 2-3 days. We started our second day by learning about bone formation and bone histomorphometric parameters. Osteoclast cell function is to decalcified bone opposite to osteoblast cell that will create cell formation. In human, life span of osteoclast is shorter than osteoblast so it will have bone resorption action in short time but long time of bone formation.

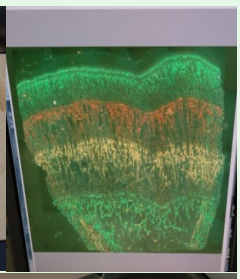


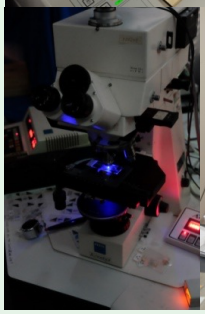






Bisphosponate is bone resorption inhibitor. When bisphosphonate increasing, bone remodeling will not occur. It will be a big problem in patient who use this medication. Taking picture and tracing bone in one by one area is measuring method in bone remodeling. It was done for performing bone histomorphometry, measuring static and dynamic parameters. After we finished lecture, we went to make sample slide from sample frozen bone that we had done yesterday. We have to seal them with special plastic before we cut frozen sample, and then bring it to cut by machine. Bring prepared sample to soak in ethanol for removing embedded material on the surface and move them into slide. Cleaning the sample on slide through running water before staining it with blue color. Then we saw the sample by fluorescence microscope. In the same slide, I can see different color of fluorescence in slide by changing different color of filter.





Psychosomatic Dentistry

At Psychosomatic Dentistry department, they treat the patient who complains the poor condition of their oral region without abnormalities finding and not secondary symptoms of psychiatric illness including unexplained symptoms of occlusal discomfort, chronic pain, and bad condition of denture. The most common unexplained symptom is burning mouth syndrome (BMS) founded 40%. The patient has the burning or itching sensation in normal oral mucosa which occurs particularly in post menopause women (50-60 years). The second one is Atypical odontalgia (25%) which is the condition characterized by tooth pain without apparent causes and hypersensitivity to stimulus in complaint of continue pain even in endodontic treated tooth. The third one is oral cenesthopathy (25%) or feeling of having too shine teeth. It is a somatic delusion or hallucination involving of the oral area for example excessive mucous secretion, slimy sensation in the mouth. And the last one is phantom bite syndrome (10%) or occlusal dysesthesia which refer to a persistent complaint of uncomforted bite sensation without obvious occlusal discrepancy. Most of the psychosomatic condition will be treated by medication of antipsychotics, antidepressants, anticonvulsants and benzodiazepines. However, dentist should check the side effect of medication by checking patient condition once in a week or once in 2-3 weeks. If the medicine used is not effective so change the new medication.

(With Yojiro in phychosomatic dentistry department)

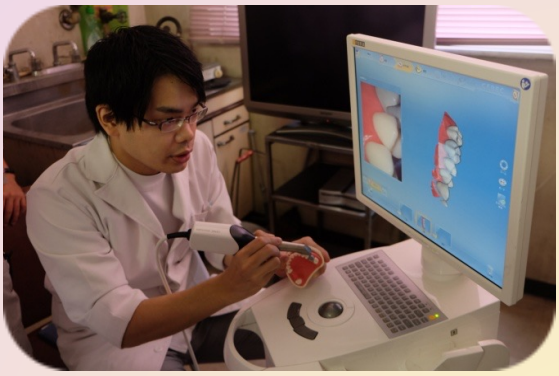
For visiting department of phychosomatic dentistry, the post-graduate student who was in charge for taking us a tour is very nice. In the phychosomatic room is extremely cute. There are a lot of Rilakuma which may help the patient relax. In our opinion, this field is very hard because you can only know the symptom or the sensation just by talking to the patient. And, it is very hard for patient to explain to dentist and also for the dentist to know the actual feeling of patient. We can easily do a wrong diagnosis which lead to a wrong treatment. Moreover, the medication may not work to everybody. So we need to follow up the patient to change the medication if our first treatment did not work. Additionally, the research of Yojiro is very interesting. He tried to find the brain perfusion asymmetry in patients with oral somatic delusion by using SPECT method. From the brain imaging, when the blood flow increase, it induces the syndrome.

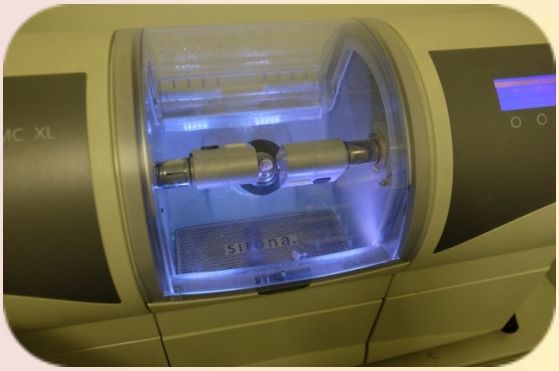
Radiology

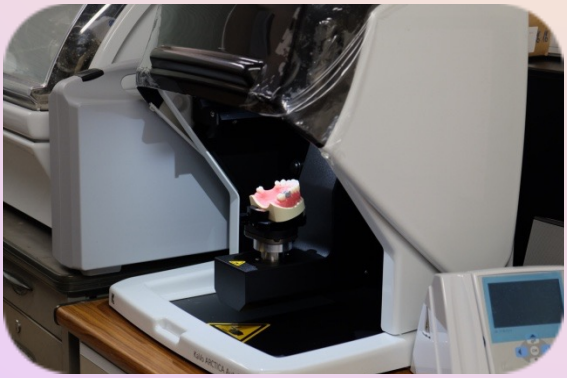
At radiology department, there were CT, cone beam CT, MRI, intra and extra oral x-ray. MRI had a strong magnetic field so there were many cautions before getting into the MRI room such as no metals in, patient must have no pacemaker, and patient must not be scared of the narrow space because they have to be in the narrow tunnel of MRI for a while. For diagnosis and confirm the diagnosis of cyst and mass, MRI was set to scan in different Tesla, one or two Tesla. I saw the MRI images of some case such as Disc displacement without reduction, Trigeminal neuralgia, Fibro-osseous lesions, KCOT, Oseomyelitis which there were some different that the case of articular disc displacement in Thailand does not require the MRI imaging for diagnosing before the treatment like in Japan.

After the MRI, I went to see cone beam CT which was different from conventional CT. The differences were the cone beam CT had higher resolution, showed only hard tissue and had narrower field of imaging. Here, at TMDU, there was some lovely noise while panoramic machine producing the image which was different than in Thailand. Cephalometrics and Anteroposterior images were taken at the same time to reduce the time of patient setting which was a useful thought. Orbix top machine was used for transorbital and transcranial imaging. After the imaging process, the data would go to the main servers which were two servers, one for radiology department's research and another one go to all computers in the dental hospital.

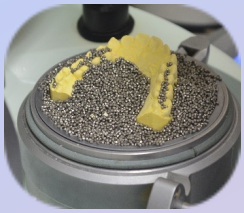
Removable Partial Prosthodontics



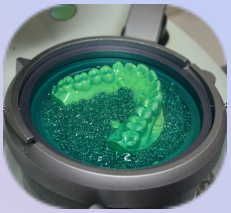




In removable partial prosthodontic department, we met Mr.kenji Fueki. He introduced about CAD/CAM technology that used in prosthodontic treatment. CAD is computer-aided design and CAM is computer-aided manufacturing. CAD/CAM technology has fewer steps than conventional preparation so it will use less time in the same preparation. CAD/CAM has only 3 steps to do which are scan, design and milling. Sensei Fueki brought us to see demonstration of scanning using extraoral scanner. Extroral Scanner cannot evaluate undercut area in only once time so they need to scan it in second time. Then he brought us to visit prosthodontic clinic. I saw the dentist did border mold and taked impression to his patient. And then he brought us to see the demonstration of scanning using intraoral scanner. Head-tip of the intraoral scanner has to be warm to prevent fogging. At last we discussed in the topic of “How will CAD/CAM technology change denture clinics?”



Sport Medicine



The department that we have never seen before in Thailand, so it is very exciting for us to learn what it is. In the class, we learned from the lecture that this department is involved the prevention and treatment of orofacial athletics and related oral diseases, as well as the collection and dissemination of information on dental athletic injuries and the encouragement of research in the prevention of such injuries and have the goals to improve technique for diagnosis, treatment, and management of sport injury around the orofacial region, establishment of guideline for maintenance and improvement of athletic performance, physical fitness and health, and the last goal is for studying of relationship between orofacial function and motor function. After that, we have a great opportunity to observe how to make the individual mouth guard step by step and wear it for the first time.

IT Simulation Learning

IT simulation was designed to test the knowledge of dental student with the case-based questions. We were assigned to each computer and we had our own username and password to login to the program. The program saved our result in every practice. The questions were designed in case-based-liked as we were in the real situation to treat the patient. The questions integrated every fields of dentistry and asked about details what we actually have to know in English. Not only the knowledge and the treatment, but the questions also asked about how to approach the patient, how to manage the emergency situation. In some questions, we had to listen the question by earphone. It is very good way to practice listening in English. There are also the pictures in the question, so it is very easy to understand. After confirming our answers that we choose, there would be the answer guide to explain every choice why this answer is correct or why it is incorrect in every question.

For our point of view, it is very decent learning way for dental student. It was like a game and not boring. We were really joyful doing the simulation. Moreover, each dental student will be able to evaluate their knowledge and know what topic they still need to study more. Every question is clearly asked what the dental students have to know. It is neither too difficult nor too easy. Also, they would be able to know their improvement. However, it was quite difficult for the first time using the program. We needed to take a little bit of time to get familiar with the program. But, it was not that difficult to use this program. Overall, this IT simulation was very beneficial for dental students for learning, evaluating their knowledge and practicing their English skill.

International Symposium and Cultural Show

The international symposium and cultural show were held at Gymnastic Hall in the afternoon of our last day at TMDU. We shared our thought in the topic of “What we learned and what we thought through the international exchange program”. The representatives from each country presented their real feelings and experiences during staying in Japan and learning in TMDU through slide presentations. All of us said that this training program has given us invaluable experiences. We learned many new things from here and we also made good relationship to each other in these 2 weeks. Many new lovely friends are the most beautiful presents from this program. The TMDU students also shared their experiences as exchange student in Australia, Vietnam and Indonesia. After that, there were cultural performances from each country. The performances were so fabulous and impressive with their elegant traditional costume. All of performers had done the great performance.

For Srinakharinwirot university, we performed Thai traditional dance with Loy-Krathong song. Loy-KraThong Day is one of the most popular festivals of Thailand celebrated annually on the Full-Moon Day of the Twelfth Lunar Month. "Loy" means "to float" and a "Krathong" is a lotus-shaped vessel made of banana leaves. The Krathong usually contains a candle, three joss-sticks, some flowers and coins. By moonlight, people light the candles and joss-sticks, make a wish and launch their Krathongs on canals, rivers or even small ponds. It is believed that the Krathongs carry away sins and bad luck, and the wishes that have been made for the new year due to start. Finally, we also invited everyone to come to Thailand and join the Loy-Krathong festival once in their life. We believe that they will enjoy and love our Loy-Krathong festival.

Closing Ceremony

The closing ceremony, the last day in TMDU, was held at the faculty lounge, M&D tower. All participated students from each university received certificates for completion of dental training program at TMDU. Then, we enjoyed eating, and talking on our last dinner party together. We also handed out Thai's souvenirs we prepared for professors, staffs, and also Japanese, Vietnamese, and Indonesian friends. Since this was the last official event, we took a lot of pictures together. While we were having dinner, there were Japanese martial art performance and the dancing from TMDU students. The performance is very exciting and amazing. The two weeks-worth experience in TMDU and Tokyo would be impressed in our mind and memory forever.

Cultural Exchange and Exploring Tokyo

Shibuya

On first night after we arrived Tokyo and left our luggage at the hotel, we decided to go to Shibuya station. It was so excited to be in a prominent landmark of Shibuya that was the large intersection. The intersection is heavily decorated by neon advertisements and giant video screens and gets flooded by pedestrians each time the crossing light turns green. It was impossible that we would not collect this moment, so we making many photos together there. After experiencing the "scramble crossing" follow by got into drug store, a store that full of good quality and inexpensive cosmetics. Over a dozen major department store branches can be found around the area catering to all types of shoppers. It's like a heaven for all lady. We went back to Shibuya for three times throughout the two weeks we stayed in Tokyo because we cannot go around this area in one day. The surrounding area is packed with shoppers, students, young couples and commuters. We enjoyed spend time there for eating shopping and strolling. We got a lot of cute stuffs from Disney store and It was so good to taste delicious exam ramen in cold night.

Akihabara

We were headed to Akihabara in the evening after our class at TMDU. Akihabara is in central of Tokyo, where is well known for its electronic shop. Akihabara has gained recognition as the center of Japan's otaku culture, and many shops and establishments devoted to anime and manga are now dispersed among the electronic stores in this district. We got many pieces of manga figures for our friends in Thailand. Then we played several claw games and gashapon games. It was so fun enough to make us lose many coins for them and we also received many toys at the same time.

Ameyoko market

On our weekend, we went to Ameyoko market in the afternoon after making merit at Asakusa temple. This shopping street famous throughout Japan for its wide variety of products. The street is full of all kinds of shops selling fresh fish, clothes, dried goods, cosmetics, precious metals and imported goods at very reasonable prices. First of all, we tasted a kind of well-known fruit of Japan that we called “Melon”, it smells sweet and tastes very nice. We spent too much time for choosing our new sneakers at shoes shops that we can find along this street. Then we ate rice with fish on top and takoyaki as our lunch at small diner which was recommended from Thai people. We found a lot of Thai people there, they came here for buy some souvenirs and snacks back to Thailand. And we also got many big bag of snacks for our friends and family. On the top of the shop, there was a peaceful temple called “Tokudai-ji temple”. Listening to all of the excitement of the market downstairs and walking up close to the goddess to pray is also an interesting contrast that we could experience at Tokudai-ji.

Hitachi Seaside Park

weekend during TMDU's exchange program, we spent our day out of Tokyo. We were so lucky that the massive little Kokia bush (Bassia scoparia) turned its color into autumn red while we were there, so we decided to go to the Hitachi seaside park. We took the JR and the bus to Hitachinaka in Ibaraki, where the park was. The weather was nicely chill and sunny. Other than the Kokia red bush hill by the lake, there were field of pink cosmos, Ferris wheel, barbeque party. There were full of Japanese happiness at the park. People brought their adorable dogs for a nice walk. The kids were running around with their family. Some flew their kites. Couples seemed so sweet around. We so loved watching the relax side of the Japanese. There were unique foods there such as curry from the Kokia. We did enjoy everything there. By the way, the joyful time there had passed by so fast, so we had to leave this serenity park before the bus run out. We think our time there were truly Japanese cultural experience.

Kamakura

Our making merit trip to Kamakura started early in the morning of our last Saturday in Japan. We departed from Tokyo by JR train and then transfer to local train. Our first destination was Kōtoku-in temple that was located a 5 to 10 minute-walk from Hase station. Along wayside to the temple, there are variety shops with kind-hearted merchants. First of all, we tried Dorayaki which known as Doraemon favorite confection as our breakfast here. Then we walked into the temple with many tourists. The structure on entering is a small shelter with a water trough for the washing of hands for purification ritual that was common at many temples in Japan. The Great Buddha of Kamakura or also known as Kamakura Daibutsu is an elegantly statue of Amida Buddha which we had ever seen.

We pray for our happy life and family. The weather was so nice and the temple area was crowded with people and children. We absorbed exquisite meticulousness of statue for a while and then we went to next temple. On the way to Hasedera temple, we had tasty grilled unagi as our lunch. It was one of the best dish in our Japan trip. It is distinctive for the trees that feature at entrance of Hasedera temple. The atmosphere in temple was very peaceful and shady with various kind of plants and fish pond. The Buddhist Goddess of Mercy places gracefully in Kannon-Do hall. From viewpoint at the temple we can see town and sea as far as we can see. Then we returned to Tokyo in the evening with contentedness.

Asakusa

We went
to Sensoji temple in Asakusa after the Tsukiji fish market. Sensoji temple is ancient Buddhist temple and the most significant and oldest temple in Tokyo. There were many stores around the temple that sold temple's souvenir, charms, and unique traditional Japanese stuff. We bought some joss stick, went in the temple and pay respect to the Buddha with 5 yens coin. It was crowded. We had bought some lucky charms for our family and friends in Thailand. We came back from the temple with the heartful of blissfulness.

Shinjuku and Harajuku

A night we decided to go to Shinjuku for sightseeing together. Shinjuku is well-known as large entertainment, business and shopping area of Tokyo. And Shinjuku station is a major commercial and administrative centre, housing the busiest railway station in the world. We strolled around Shinjuku that was crowded with many people. It was surprisingly to see all building were filled with plenty of light. We enjoyed eating ice-crème crepe in a small garden with good weather together. It was perfect matching for us in that night.

Harajuku station, which is between Shinjuku and Shibuya station. It is the center of Japan's most extreme teenage cultures and fashion styles. The focal point of Harajuku's teenage culture is Takeshita Dori (Takeshita Street) and its side streets, which are lined by many trendy shops, fashion boutiques, used clothes stores, crepe stands and fast food outlets geared towards the fashion and trend conscious teens. We enjoyed shopping many trendy stuffs and looked at Japanese teenage fashion and did not forget to taste famous Harajuku crepe.

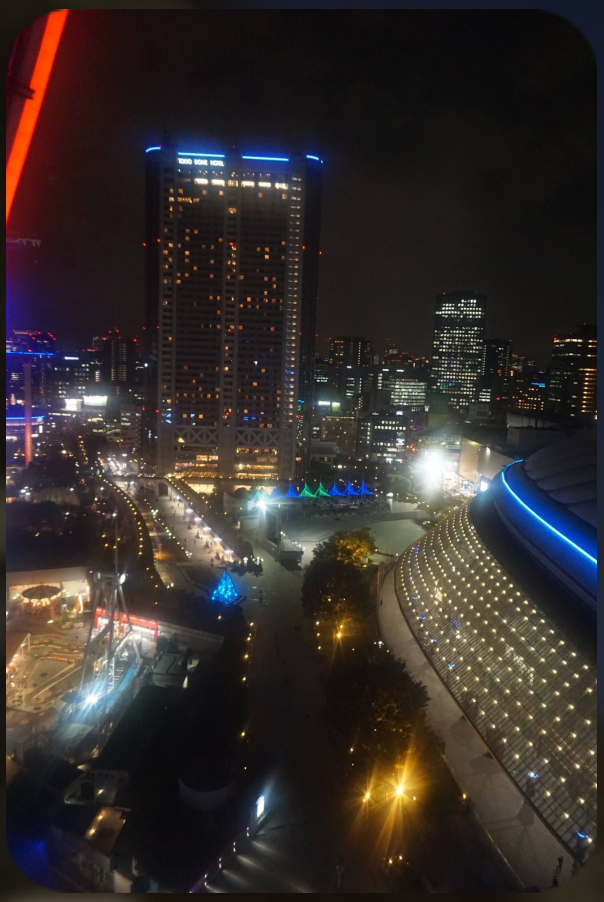
Tokyo Imperial Palace

We were suggested from our Japanese teacher to go see the Nijubashi Bridge at the Tokyo imperial palace. The Nijubashi Bridge was the bridge that looked like the eyeglasses with the reflection from the river. It was kind of the landmark. What we had found interesting other than the bridge was the way there. We had walked through many peaceful parks with beautiful tree. The weather was nice and chill. The environment around the palace led us to be happy, even we were not at the bridge, where we want, yet. This place was one of our favorite places to come back again, not just for seeing bridge but for enjoying the nice moment around again.

Tokyo Station

We stopped by the Tokyo station after our long city adventure day. Tokyo station was a huge main intercity station of Tokyo's transportation and also the busiest one. Our main goals for coming here were to see the Marunouchi frontage and to shop Japanese snack and dessert in the station. The Marunouchi frontage at night were so pretty with the nice lighting, the building itself, and the massive building around. In the Tokyo station, other than many trains, there were many cute attractive shops all over the station. It was spectacular how the shops were densely in the little place in the station. We had bought a lot of popular Tokyo banana, Ginza strawberry and we had tried several interesting things without knowing what it was before we bought it. Most of them were so delightful such as the milk caramel pudding, the real strawberry mochi. We would definitely come back here, the Tokyo station, and had all the desserts over again!

Tokyo Dome



We went to Tokyo dome in one evening after we finished from TMDU. The Tokyo dome was a huge sport stadium with variety interesting things around and such as Moomin's Café, shopping mall, Godiva ice cream, Ferris wheel, theme park. We went on a Ferris wheel that was grand enough so that we could see almost the whole Tokyo and see the top view decoration of the Tokyo dome. It was so spectacular. We jumped in Moomin's café and enjoyed our little meal with our favorite cartoon character. We had our dinner at some random doria restaurant and it was so delicious. After that, we walked around but it was already late, so the theme park and other shop were closed. Anyway, we still think that Tokyo dome is a nice cool place for hanging out either day or night time.

Tsukiji Fish Market

Tsukiji fish market was a well-known place for fish selling, auctioning, and having authentic fresh sushi, so there were no reasons for us to miss it here. We came here in an early Saturday morning with little rain shower. We walked around to see what they were doing in the market and to choose which sushi restaurant we should be in line for. Six of us were divided for two restaurants, one was famous restaurant “Sushi Dai” with four hours waiting, and another was Midori with half an hour waiting. Both sushi restaurants did impress us beyond our expectation. Another impressive thing was the mouthful delicious tamago that we had while we were waiting!