

# E-Vision

*Official Bulletin of the EGPSEE-SW*

Vol. 3 No. 1

SUMMER 2005



National dress of Vietnam...

12 months in Thailand...



A postcard from Zurich

*... and a lot more !*

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## **Editorial**

*E-Vision bulletin is now in its third year of bringing you the latest happenings in and around EGPSEE and providing among many other features, educational articles as well as enjoyable ones to keep you refreshed.*

*Just like any dynamic undertaking, our bulletin continues to evolve. In this issue, we have added a new section called “Research Spotlight” where you can find a synopsis of the research study of one of our EGPSEE colleagues. We are also expanding our horizons to let you know how our alumni friends are doing in our “Alumni News”. Lastly, we have also added the “New Students” section to introduce the new members of the EGPSEE family. Before, we only had a similar section for the graduates.*

*All these have been made possible through the concerted efforts not just of the Editorial Board, but also of those who have contributed articles, photos, ideas and so on - from the EGPSEE students to the members of the faculty and staff and our program officer, Mrs. Werawan. Our heartfelt thanks to each one of you.*

*As we look forward to our next issue, we once again ask for your continued support and invaluable contribution.*

*For now... enjoy reading!*

*- The Editorial Board*

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# Message Message

From the EGPSEE Head



I took over as the EGPSEE head in April from Prof. Hasegawa. I will do my best to make this program more fruitful and enjoyable one in cooperation with the EGPSEE staff and students. It has been five years since this program started. The problems in the early stages were solved by the great efforts of the EGPSEE staff and students. Now several tens of students have graduated from this program and are working or studying all over the world.

I am sure that this program is one of the best English graduate programs in Japan and greatly contributes to make your career better. However, it has been realized that we have to solve several problems to further improve this program. One is the English atmosphere in the laboratories. Regardless of the repeated requests from EGPSEE, some foreign students are still facing difficulties participating in seminars conducted mostly in Japanese. Second problem is related to the reorganization of the Graduate School of Engineering. Some instructors are facing difficulty due to students' lack of background since the divisions are now smaller and courses in each division are not so many. The third problem is related to the increasing number of Japanese students. Normally, Japanese students are enrolled in April and foreign students are mainly enrolled in October. Japanese students then have to study courses II then I so as not to waste the first summer semester. The fourth problem is mainly related to the enrolment of Japanese students. We have to set clearly the English requirement for Japanese students. Anyway, continuous efforts would be the best means to improve the program.

Thank you in advance for your cooperation.

*Yoshiaki FUJII*  
EGPSEE Head (2005-2007)

# Message Message

From the EGPSEE-SU President



Hello everyone,

It's been awhile now since the long and cold winter. Summer has come and I hope you enjoyed the cherry blossoms last spring. EGPSEE-SU made the most of winter by taking part in the Sapporo Snow Festival. It was enjoyable and gave us an opportunity not only to cheer up together but also to freeze together as Mrs. Werawan, EGPSEE program officer said.

There have been many happenings and activities since the last issue of E-Vision. We had eleven graduates in September 2004 and two in March 2004. Best wishes to all of them! We are also proud of the October intake students as they have proven themselves to be one of the active members of EGPSEE.

EGPSEE is widening its reach and now the number of Japanese students is increasing. It is an indication that EGPSEE is becoming a point of attraction in the Graduate School of Engineering and the goal of mutual understanding between Japanese and foreign students is getting close at hand.

The EGPSEE-SU had recently undergone changes in the executive committee. We warmly welcome and congratulate the new leaders. We are confident that they will give their utmost effort for deepening togetherness in the EGPSEE community, working for the student welfare and bringing in new activities.

As we start the summer, many tasks are waiting for us in our studies and EGPSEE activities. I wish all success!

*Mintesnot Gebeyehu*  
Former President, EGPSEE-SU

## Projects and Activities of EGPSEE-SU

By Vasantha Wickramasinghe\*

Despite the busy academic life, students and professors found time to participate in the events organized by EGPSEE-SU for the winter semester. The Graduation Party, Welcome Party for new EGPSEE students, Year-end Party (*Bonenkai*), and participation in the Sapporo Snow Festival were the activities held since the last issue of E-Vision. Why don't we refresh our minds of some of the wonderful moments from these events.

### **Graduation Party (17 Sep, 2004)**

EGPSEE had produced again another five excellent Doctors (*Sanjay, Antoni, Prakash, Preda, and Benno*) and six Masters (*Minte, Jackie, Withit, Leo, Anh, and Joshi*). Students, staff, professors, and family members of the graduates had a very joyful evening. Graduates shared the experiences and memorable moments during their stay in Hokkaido. Sara's violin play gave a fantastic ending to the graduation party.



### **Welcome Party (08 Oct, 2004)**

Again it was time to welcome the new members of EGPSEE family. This time 11 newcomers, including four eye-catching ladies, *Aileen, Katia, Surakha, and Suthatip*, were added to the EGPSEE family. *Games!!!* Can still remember the *Butt-spelling, Human Nut*, etc... Newcomer *May*, from Thailand showed his talent in butt-spelling. The party was a great success thanks to the efforts of the ever-active Filipino group who mainly organized the event.



### **Bonenkai Party (22 Dec, 2004)**

This was the last party for the year 2004 and was organized by the new EGPSEE students. It was an unforgettable event for many Japanese students who participated in this party. Can you all remember how *IZUMI San* (Japanese friend) acted as a gorilla? Everyone also had the chance to experience the spicy Thailand foods in this party.



### ***Sapporo Snow Festival (01 Feb -05 Feb 2005)***

One of the highlights of the EGPSEE-SU calendar was the participation in the 56th Sapporo Snow Festival (*Yuki Matsuri*). This year, the theme was “*Love and Peace*”. This was the second time EGPSEE family took part in this festival. Surprisingly, we got the same spot as last year to make the sculpture. Students, staff, friends, and family members worked for five whole days to shape up a dove embracing a big heart. Can you still remember how *Mrs. Werawan* gave her contribution to this year’s *Yuki Matsuri*? Also thanks to our ever-active *Withit* and *Dhanny* for their spearheading efforts.



*\*Laboratory of Traffic Facility Engineering*

## **Research Spotlight**

### ***Effect of long-term consolidation on shear modulus of crushable volcanic soils***

Our Commitment to Sustainable Development

*By Sahaphol Timpong \**

Volcanic soils, distributed widely in all regions of Japan, especially in Hokkaido, have been used as a useful construction material in civil engineering, for example, road construction and reclamation. The use of natural volcanic soils as construction materials contributes to sustainable development by lowering trucking and other transportation requirements for transporting materials to the construction site. Environmental benefits include reduced energy and air-pollution during transportation of construction materials while economic benefits include reduced operating and maintenance costs for transportation. However, natural volcanic soils with particle breakage are one of the problematic soils in geotechnical engineering. In order to use them as a construction material, it is necessary to understand their mechanical properties such as pseudo-elastic shear modulus and liquefaction strength. Deformation-strength properties of volcanic soils have been reported in our previous researches (Miura et al., 2003; Timpong and Miura, 2005).

Time-dependent behavior of deformation-strength reported in the literature has been focused on sand and clays. However, for volcanic soil with particle breakage, it has not been fully investigated. This study was conducted on natural volcanic soils in Hokkaido in order to investigate the time-dependent behavior of its shear modulus. From laboratory test results, the shear modulus of volcanic soil gradually increases with time, the rate of increase in the shear modulus depends strongly on particle crushability. The proposed equations for evaluating the long-term value of shear modulus obtained from the present study may be useful in geotechnical engineering routine design.

*\* Laboratory of Analytical Geomechanics*

## Interview

### **“Great pleasure to be part of EGPSEE family”**

An interview with Ms. Nami Mabuchi by Michael Angelo Promentilla\* and Philip de Guzman#

*Ms. Nami Mabuchi works as an officer at the Academic Affairs Division of the Graduate School of Engineering and is the person who handles international graduate students. Before moving to the Graduate School of Engineering in April 2001, she had also worked in the General Affairs Section of Graduate School of Economics (1993 - 1996), Accountant Section of School of Dentistry (1996 - 1999) and International Student Center (1999 - 2001).*

*Ms. Mabuchi likes sewing, knitting and making sweets. She is now sewing her ‘yukata’ for a fireworks display in July. Our dynamic officer also tries to go swimming on holidays since she has very few chances to exercise on weekdays.*



#### **1. You speak English very well. How did you learn English?**

I majored in English Literature in college and had to study English. However I did not learn to speak English, since all courses were instructed in Japanese. Now I need to answer many questions from EGPSEE students and the program officer, Mrs. Werawan everyday, so I think I am learning English from day to day.

#### **2. Does it help to have English ability at work as well as in other situations?**

When I travel abroad with my friends or family, it is so helpful for me to have English ability. When I traveled in Italy with my mother last year, I was really happy to help her with my English.

#### **3. What do you think is the significance of an English program like EGPSEE and foreign students?**

I think it is a very good chance for Japanese students to communicate with foreign students in English. And English program makes it easier for foreign students to study in Japan. English program has mutual good effect to both Japanese and foreign students. I hope we could have English program not only in the field of civil engineering but in other fields as well, and that all students would share in this mutual effect.



*Ms. Mabuchi enjoying international dishes*

#### **4. You have been to several EGPSEE gatherings. What can you say about the EGPSEE's brand of activities, parties, entertainment and foods? Do you enjoy being part of EGPSEE family?**

I am always looking forward to the parties of EGPSEE. Especially, the foods are so tasty! However, I am astonished by hot food sometimes. My colleague, Ms. Ito is also looking forward to joining the parties. It is our great pleasure to be part of EGPSEE family.



### **5. Do you have any unforgettable EGPSEE moment?**

There are so many unforgettable moments. Among them, the graduation ceremony and the orientation for new students are the most impressive moments every year.

### **6. Among EGPSEE people, besides Mrs. Werawan, who bothers you most, who is the runner-up?**

It is a top secret ☺. And I would like to say, Mrs. Werawan never bothers me. Everybody in the EGPSEE family knows well that we cannot do anything without her. To tell the truth, it is sometimes difficult for me to catch up with her power ☺.

### **7. What do you think of the present status of EGPSEE?**

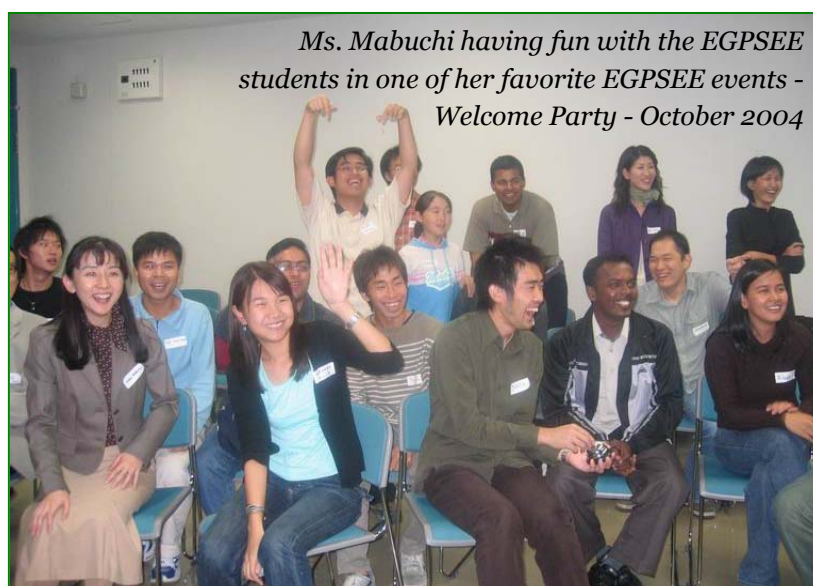
There are many English programs among Japanese universities, and I think EGPSEE is offering the highest quality courses. However, I feel sorry that many professors in other fields, even professors at the Graduate School of Engineering, do not know EGPSEE. Only a small number of professors and staff in Hokkaido University recognize its existence.

### **8. If given the chance, is there something you would like to change in the English program or Japanese system?**

If possible, I would like to offer English course not only in the socio-environmental engineering field but in all the other fields of Graduate School of Engineering as well.

### **9. Any message to the EGPSEE students?**

It will be five years this September since EGPSEE started and the first students who enrolled in the master's program in October 2000 will graduate from the doctoral course. EGPSEE has been faced with many problems and has tried to improve the English program. And now I think EGPSEE students are the most fortunate ones among foreign students in Hokkaido University. I am so proud of working for EGPSEE and I would be really happy if I could be of help during your study.



*Ms. Mabuchi having fun with the EGPSEE students in one of her favorite EGPSEE events - Welcome Party - October 2004*

\* Laboratory of Solid Waste Resources Management Engineering

# Laboratory of Structural Analysis

## Article

# *Earthquake Risk in Nepal*

*By Yadab Prasad Dhakal\**



Nepal is a mountainous country known as the Kingdom of the Himalayas. It covers about one third of the highest and the youngest mountain chain in the world. It is geographically bounded by  $26^{\circ}12'$ - $30^{\circ}27'$  north latitudes and  $80^{\circ}4'$ - $88^{\circ}12'$  east longitudes. The total area of Nepal is 147,181 sq. km. It is a landlocked country and lies between two giant countries, i.e., China in the north and India in the south. The total population of Nepal according to the 2001 census is 22,736,934 with a growth rate being 2.4%. It comprises of ninety two mother tongues and more than one hundred ethnic societies with more than a

dozen of religious beliefs. Hence, Nepal can be attributed as one of the countries where people live in harmony in spite of its lingual and cultural diversities. However, the people of Nepal are vulnerable to a number of natural disasters like floods, landslides, earthquakes, fires, epidemics, among others. About 750 people lose their lives annually due to these disasters. Considering the potential large earthquake and the consequent massive devastation in Kathmandu Valley, the capital city of Nepal, earthquake disaster risk reduction is the current matter of interest among the researchers in the field of disaster risk management in Nepal.

Nepal has experienced numerous large earthquakes resulting from the collision between the Indian and the Eurasian plate over the past several centuries that have resulted in property damage and loss, injury and death of people. Over the years, a great amount of data, though not complete, has been collected about the earthquake records in the Nepal Himalayas. The instrumental record for recent earthquakes shows that the total number of earthquake events of magnitudes between 2 and less than 7 in Richter scale in the Nepal Himalayas during the years 1994 to 1999 were approximately 700, 900, 1500, 1700, 2200, and 1600 respectively. Earthquake data (DMG, Nepal) from the last ten years (1994-2003) show that earthquakes with magnitudes 4-5, 5-5.5 and 5.5-6 have occurred 65, 21 and 7 times, respectively, with the epicenters inside Nepal. Many researchers believe that Nepal Himalayas is likely to be hit by a large earthquake with a magnitude greater than 8 in Richter scale as their findings reveal a seismic gap in the region for over two hundred years. However, there is no national system or capability for a proper seismic hazard assessment, site effect estimation, earthquake preparedness, disaster mitigation and emergency response in Nepal.

The seismic catalog of Nepal reveals that catastrophic earthquakes reoccur in every 80 to 90 years so people have a tendency to gradually forget about the impacts in the next generation. But the documentation has always played a crucial role in revealing the history of the past events. Eastern Nepal and basically Kathmandu suffered a huge damage due to a great earthquake of magnitude 8.3 in the Richter scale in 1934. At that time 8,519 people were killed and more than 200,000 houses were destroyed. If an earthquake of similar intensity would occur again in Kathmandu Valley, it is expected that 40,000 people would die, 60 percent would become homeless and 90,000 buildings would collapse (Kathmandu Valley Earthquake Scenario/NSET/1998).

The situation is worse now because of the rapid organic growth of urban and haphazard construction of buildings without incorporation of earthquake resistant features. Out of 58 urban centers in Nepal, only one municipality, Lalitpur Submetropolitan City, has started implementing building codes in the construction of buildings since 2003. A strong enforcement of the building code throughout the country, massive training of technicians and masons, earthquake awareness and preparedness programs in large scale, and improvement of coordination among the existing institutions, I/NGOs and agencies for emergency response and recovery system seem to be urgently needed to reduce inevitable earthquake havoc in the near future.

\* *Laboratory of Urban Disaster Protection Engineering*

## Article

### ***Does Culture Matter?***

*By Werawan Manakul \**

The other day I came across a joke told by a famous interpreter, Mr Masumi Muramatsu.

“A plush passenger boat is in danger of sinking due to a bad weather. The captain gives orders that all women and children be gathered on lifeboats and all men passengers jump into the rough sea wearing life jacket. What would he say most effectually to the men of different countries?

To an English man, the captain says, "You are a gentleman....," "Yes, of course...." and the man jumps.

To a German, "This is captain's order.... " *“Ja!”* the man jumps.

To an Italian, "It's against the rule to jump...." The Italian laughs, "Who cares about the rules?" and flops into the water.

To a Dutchman, "This is the last life jacket left...." and the Dutch grabs it and jumps.

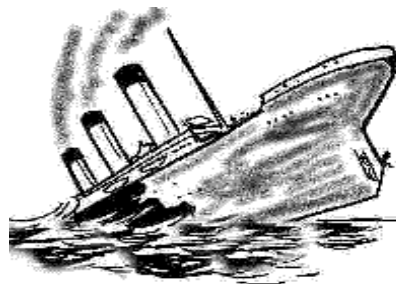
The captain says to an American, "Don't worry, sir, you have a high amount of life insurance policy...." Relieved, the American jumps.

And to a Canadian, just telling him, "The American, over there, tells me he won't jump...." is enough.

Now, what would the captain of the sinking ship have said to a Japanese who might have been one of the passengers? He would have whispered this way: "Sir, all other Japanese passengers have jumped already, you know...." "Oh, is that true? Then, I will, too...." The Japanese would jump then, though deliberately.”

I could not help thinking what should the captain say to a Thai to make him jump. Thai people are well known for being generous and forgiving as can be summed up by a famous phrase “mai ben rai” or “it’s alright” or “dai jou bu”. Whether you are an hour late for an appointment, crossing the street where you are not supposed to, or have lost the book you borrowed from your friend, what you will hear from your friend is “mai ben rai”. This somehow reflects the Thai peoples’ attitude of nothing is ever important enough to worry or get all steamed up about.

After having analyzed my country fellows’ character, I think what the captain should say to a Thai to make him jump is, “Sir, I think the sea is too rough ....”



What about you? What do you think the captain should say to your countryman to make him jump?

\* *EGPSEE Program Officer*

## International Page



### *Japanese Communication Style*

*By Manabu Ohya \**

Do you know “OHANAMI”? It means a party to enjoy looking at the blossoms in spring. People usually drink and have a barbecue under the trees. In Sapporo, the famous place for OHANAMI is the Maruyama Kouen. There are so many Japanese cherry blossoms and people looking at them during the OHANAMI season.



In my opinion, OHANAMI consists of three elements as follows: (1) blossoms (Japanese cherry blossom), (2) parties; and (3) crowd. In other countries, at most two of these conditions are met. It must be a peculiar custom in Japan, but people sometimes have a party even before the blooming of blossoms. It goes like the Japanese proverb, “HANA YORI DANGO,” which means people prefer “DANGO” (eating and drinking) over “HANA” (blossoms). Of course, I prefer party over blossoms, too!

Besides OHANAMI, we often have drinking parties which are called “NOMIKAI” in Japanese. Why do we have NOMIKAI? Perhaps, there are many reasons, for instance, to enjoy drinking, to enhance friendship, to mark the start or end of terms, to celebrate something, and so on. But I think the main reason is to enhance friendship. Drinking makes us more open. Therefore, we can talk even about troubles and complaints candidly. This is reflected well in the word “NOMMUNICATION”, which comes from “COMMUNICATION” and the Japanese word “NOMU”, which means to drink in English. Moreover, in my experience, communication is important to accomplish an objective with others, because lack of communication may lead to a division and failure. In other words, drinking with people or having NOMIKAI, so called NOMMUNICATION, develops a trust between each other. That’s why I think NOMIKAI is an important Japanese communication style.



Anyway, I like both OHANAMI and NOMIKAI. If there are delicious liquor and food, they will be more enjoyable. I recommend that you have these events to enhance your friendship. Would you drink with me?

*\* Laboratory of Resources and Materials Engineering*

## International Page



### *Enjoy 12 Months in Thailand*

Have you ever heard of “Thailand, a land of smiles”?

*By Surakha Wanphen\**

In this land of smiles, folks are getting ready to enjoy 12 months in a year. Ranked as one of the most popular tourist destinations in the world, Thailand is rich in attractive destinations and culture, and can be explored throughout the year. Each festival has its own meaningful history behind it that reflects the evolution of the Thai Kingdom. For Thai people, they are wonderful sites, sounds and memories to be treasured throughout their lifetime.

**January** - Since several decades ago, the western New Year's Day has also become an official holiday in Thailand. However, the New Year's Day popular to Thai people happens in April; it is called "*Songkran*". Besides New Year's celebration, Thai children also look forward to the “National Children Day” which is held in the second Saturday of January. Parents take their children out to special events held by local authorities. Children are allowed to enter the Thai Parliament only on this day. In Thailand, children are encouraged to be educated and to respect their adults.



**February** - Every year, Chinese ancestors who live in Thailand celebrate the Chinese New Year with elaborate ceremonies like the Lion Dance, Dragon Procession and other traditional Chinese colorful festive processions and parades.

**March** – We don't have public holiday in this month. However we can enjoy the first summer breeze in Pattaya where the entertainment beach in Chonburi province with Pattaya Music Festival is located. Every year, a lot of bands and singers from Thailand, Japan and Korea join hands to give everyone a wonderful moment in March.

**April** – The “*Songkran*” Festival, held from April 12 to 15, is the traditional Thai New Year. This is the time for Thais to pay homage to Buddha images, clean their houses, and sprinkle water on their elders in a show of respect. Anyone who ventures out on the streets is likely to get a thorough dousing of water, all in good fun, but also quite welcome at the peak of the hot season. It is also the best month to enjoy the beaches especially in the southern part of Thailand.



*Left : “Rod nam dum hua” Traditional activity,  
bathing ritual to the elders*

*Right : Songkran at Khoa sarn road*



**May** – Around the middle of May, the Royal Ploughing Ceremony is an ancient Brahminical rite dating back to the Sukhothai period (1257 - 1350 A.D.). The ceremony, which heralds the start of the new rice-growing season, is undertaken to assure a successful planting season and an abundance of the nation's crops. The Royal Ploughing Ceremony which is held at Sanam Luang -- The Royal Ground -- begins with the Lord of the Harvest performing a rite to predict the amount of rainfall in the coming season. This is done by selecting one of three pieces of cloth of varying lengths. Also, being a tropical country, there are many fruit festivals in this month.

**June** – Fruit festivals continue from May till this month. You can enjoy exotic tropical Thai fruits like durian, mango, pomelo, mangosteen, etc.



**July** – In the northeastern Thailand or “Isan” in Thai, Phi Ta Khon Festival reflects the local Isan belief in ghosts and spirits. Held once a year in Dan Sai district in Loei Province, it is part of a grand merit-making festival known as the "Boon Luang" Festival. Part of the activities includes young men dressed up as "spirits" wearing long trailing costumes made from colorful strips of cloth sewn together.

**August** – August 12 is the National Mother’s Day. The Queen is regarded as a mother to all Thai people so her birthday is also celebrated as Mother's Day. The official flower of Mother’s day is Jasmine, which Thais give to mothers on this day.

**September** – This is the month of rainy season. In some areas, there is a “Long Boat Race,” where people enjoy cheering for their local team.

**October** – At Nakhon Phanom, northeastern part of Thailand, majestic “fire boats”, elaborately adorned with flowers, incense sticks, candles and lanterns and each bearing an assortment of ritual offerings, are set alight and floated down the Mekong River. Illuminated boats vary in shape and form and reflect cultural identity, artistic and cultural splendor, indigenous culture and beliefs, folk knowledge and skills.



**November** - The Loi Krathong Festival is celebrated nationwide in Thailand, especially where there are rivers, canals or sources of water, with different characteristics. Walking along the river and flowing a "krathong" (a banana leaf cup), is intended to float away ill fortunes as well as to express apologies to Khongkha or Ganga, the River Goddess.

**December** – December is the month of holidays and celebration. The greatest celebration is to wish the king a long life on the king's birthday on December 5. It is also celebrated as Father's Day as the King is regarded as a Father to all Thai people. The buildings in Thailand are covered up with symbols of the monarchy and the King. On December 31, the countdown to the New Year in the City of Angels is a popular event for both Thais and foreigners.

Every month of the year, we, the Thai people, celebrate together the festivals with our smiles and respect. We hope all of those festivals retain their meanings for our future generations.

## International Page

### *Ao Dai*

National dress of Vietnam



By Linh Vu Nguyen \*



*Visitors to Vietnam are impressed by the traditional dress of Vietnamese women. It is called “Ao dai,” and its literal meaning is “Long Dress.” When they leave Vietnam they cannot forget the beauty of women dressed in Ao dai. The Vietnamese Long Dress, what is it? How beautiful actually is it? Why is it charming? And why do visitors always remember it after leaving? You will find out the reasons after reading the following text.*

Ao dai, the women’s national dress of Vietnam, is a two-piece garment made of cloth. It is full-length and worn over loose silk trousers that brush the floor. It flatters the figure of those who wear it. The Long Dress splits into two flaps, a front and back panel from the waist down, making it comfortable and easy to move in. The Ao dai’s body hugging top reaching to the ground makes it is very sensual. Long Dress is elegant and demure which makes it suitable for people of all ages. Anthony Grey described the Ao Dai in his novel, Saigon, as “demure and provocative...women seem not to walk, but to float gently beneath the tamarinds on the evening breezes.” The Ao Dai covers everything but its thin fabric hides almost nothing. That’s true! Ao Dai is so charming and so sexy that it makes visitors who come to Vietnam not to forget it.



Early version of Ao Dai dates back to 1744. Ao Dai at that time was wider and simpler than that of today. Originally, the Ao Dai was loosely tailored with four panels, two of which were tied in back. In 1930, the Ao Dai as we know now appeared. Today, the Ao dai length is perhaps shorter than those in the past; it is only below the knee. Different women wear Ao dai in different colors without the same patterns and designs. The colors of Ao Dai let us know the age and the status of the wearer. Schoolgirls usually wear white long dress. Its white color symbolizes their purity. When they grow a little older, they turn to the pastel shades. Married women wear strong and dark colors with more patterns.



There is also a similar costume for men and is also called “Ao Dai,” but the man’s dress is shorter, just at knee length, and more loose-fitting. Men wear it less than women; they usually wear it on ceremonial occasions such as weddings or funerals. The king always wears the Ao Dai sewed of the brocade with embroidered dragons on it. The high mandarins usually wear the color purple, contrary to the blue worn by the mandarin of lower rank.

The Ao Dai today has been becoming more and more popular. It is diversified. There are many designs, materials, and colors. Velvet, silk, satin, tapta Ao Dai, embroidered, painted or printed with flowers pattern have made Ao Dai become more and more exquisite and elegant. Thus, it has become a standard outfit for many office workers and hotel staff. Moreover, it has now been the favored dress for most formal occasions.

Ao Dai was the national symbol of Vietnam. To the whole Vietnamese people, it has been always synonymous with their grace and beauty. Over many years of Vietnam's history, it has kept its symbolism and image in the hearts of all Vietnamese. Today, in term of its timelessness, Ao Dai remains the national dress for both men and women. The Ao Dai has been perfected step by step to overcome all ages and time to reach to all people not only in our country but also in the rest of the world. To all Vietnamese people, rich and poor, young and old alike, the Ao Dai has always been their favorite choice in most special occasions.



\*Laboratory of Urban Water System Engineering

## Puzzle

### Thirteen

*An "Anag-Rhyme" by Michael Angelo Promentilla*

If I tell you now about '*the earthquakes*',  
it's really an anagram of '*that queer shake*'.  
Then, would you believe me if I tell you,  
'bout the an'gram of '*eleven plus two*' ?

It's such a mathemat'cal beauty,  
Words and numbers are in such harmony.  
What's this an'gram and tell me if you're done,  
For it will be my last line – \_ \_ \_ ?

### Answers to last issue's puzzles

1. Given  $D = 5$ , then:  $T = 0$ ,  $E = 9$ ,  $A = 4$ ,  $R = 7$ ,  $G = 1$ ,  $L = 8$ ,  $N = 6$ ,  $B = 3$ ,  $O = 2$
2. melons, lemons
3. 5 x 5 magic square (horizontal, vertical and diagonal sums are all 65)

17	24	1	8	15
23	5	7	14	16
4	6	13	20	22
10	12	19	21	3
11	18	25	2	9



## The More You Know

### *A Structure We Can Learn From*

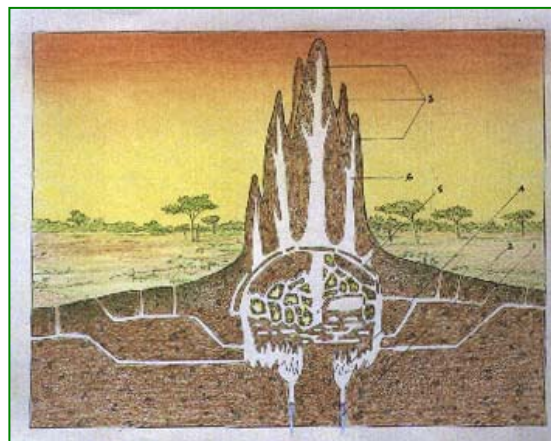
*By Abdoullaev Akhmad \**

When people design, they take their inspiration either from the designs completed before them, or from the wonderful design examples seen in nature. Here I would like to introduce one of the most marvelous buildings in the world. But before that, let me begin by citing some of its characteristics, and you try to guess what building it could be.

Location	: Australia and Africa
Height	: Proportionate to 600-m tower.
Number of inhabitants	: About three million
Construction material	: Soil mixed with saliva
Remarkable characteristic	: Ingenious passive design for heating, ventilating, and air conditioning (HVAC)
Built by	: Thousands of blind workers
Tools used	: None

You feel perplexed? Okay, let's name it - it is termitary (termite nest), or I would prefer to say termite tower. The termite is the acknowledged master architect of the creature world. No other insect or animal approaches the termite in the size and solidity of its building structure. The world's tallest non-human structures are built by Australian or African termites. They reach five to six meters in height. If a human being were the size of an average termite, the relative size of a single termite nest is the equivalent of a 180-story building - almost 600 meters high. It would easily be the tallest building in the world. The process of construction, the materials and correct combination of materials to yield an elegant, structurally efficient and durable structure is simply awe-inspiring.

The building material is usually local soil mixed with saliva. Sometimes dung is mixed in. It becomes so hard and impervious that the native people of the area use it for building their mud and stick shelters. The termite mound, or termitary, consists of hard, thick walls that seal in moisture and keep the heat out. The Australian and African varieties of termite towers are designed for cooling. A system of channels and ducts circulates air throughout the mound. These passageways run through areas of the mound that have walls that are porous or have tiny ventilation holes. The pores act as fresh air ventilation and stale air exhaust. This supply and return system performs solely on heat and gravity with no moving parts.



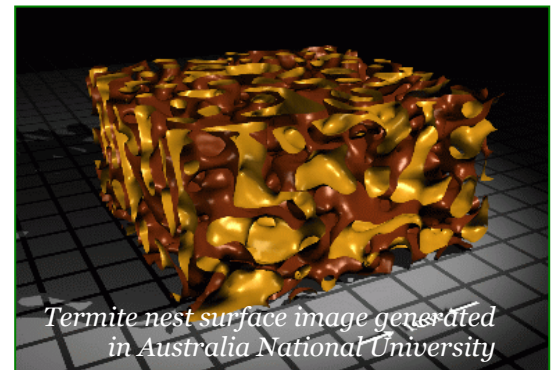
At the lower core of the termitary are the living and working quarters. This area is the coolest and most insulated zone of the nest. The royal chamber, which is the largest chamber in the nest, houses the queen and king. Below the royal chamber is where the workers store food and care for the young termites, called nymphs. In some colonies the workers tend gardens where tiny mushrooms and varieties of fungus are grown. The termites grow this fungus inside a comb which is located in several pockets in the central zone of the inner nest. The comb, made of termite droppings, provides nourishment for the growing fungus and the termites feed on both the fungus and the comb. Termites live on cellulose, the substance which makes the framework of vegetation, and fungi.

The only connection of a termite nest to the world outside is through tunnels that are the size of a single termite. Passing through any one of these tunnels requires "permission". The "guard" soldier termites at the door easily detect if the intruders are in fact residents of the colony from their smells. The head of a single termite can also work as a cap for any one of these tunnels, which are exactly the same size. In case of attack, termites actually use their heads to close off these holes by entering backwards and becoming stuck in these doorways. The insects make their trips to the outside at night, when it is cooler, and collect twigs, leaves, seeds

and other food. In very hot, dry climates some species in the desert dig straight down exceeding 40 m to connect with underground water. Underground wells supply the termitary with water and a source for cooling the interior.

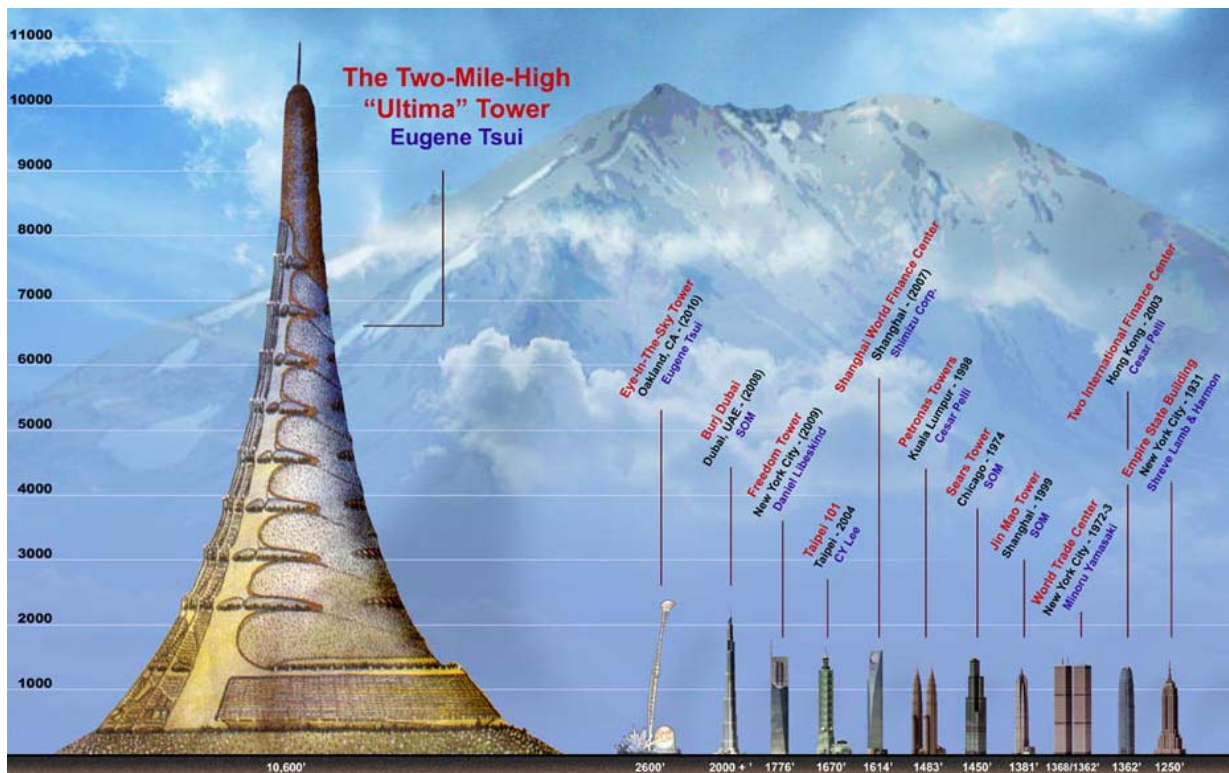
The peaks and towers of the termite's nest act as lungs that expel rising hot air, which is generated by the breaking down of the fecal comb by the fungus. The air then rises via a large central air duct, and moves up through the long porous chimneys. The carbon dioxide in the air then diffuses to the outside, while oxygen diffuses into the chimneys. The oxygenated air eventually loses its heat to the cooler outside air and cools sinking down into the cellar. In the construction of the termite nest, there are supplementary systems such as air-conditioners, humidifiers and ventilators. Furthermore, for the different parts of the nest, different temperatures are set and maintained. The temperature and carbon dioxide content of circulating air vary depending on location within the termite nest: temperature from 24 to 30°C and carbon dioxide from 0.8 to 2.7 percent, just in accordance with the needs of that location. Such an ingenious HVAC system is necessary for the survival of some three million termites to a single colony.

The exterior form of the termite nest depends upon the climate. For instance some termite nests have adapted to their rainy surroundings by creating umbrella-like roof structures that direct water from heavy rains away from the nest. Compass termites appear like giant wedges with the broad side facing due east and west. This solar orientation serves to keep the high, intense sun from hitting any appreciable portion of the mounds surface and allows the weaker morning and setting sun to warm the greater surface area of the structure; thus, the structure attempts to create an even heating situation whereby the mound does not overheat.



Prominent architects in past and recent times such as Antonio Gaudi, Frank Lloyd Wright, Santiago Calatrava and others have often referred to nature but it was mainly limited to a visual and metaphoric sense. Recently there are strong ecological or green movements in architecture. Looking at the nature as a basis for design gives wider opportunities for extraordinary and striking designs, simplified construction methods, use of innovative materials and ecological technology, and economy of cost and labor.

One of leading architects, using the knowledge of the nature to create a new architecture is Eugene Tsui. One of his impressive projects “Ultima Tower”, two-mile high sky city is based on the concept of termitary nest.



## Travel Diary

### *Aichi Banpaku*

The world's biggest expo park

*By Arshad Baharudin\**



This semester's travel diary takes place not too far from home. In fact, it's just over in Honshu! The Aichi Banpaku – or Aichi World Expo – lies just outside the city of Nagoya. How do you get there? Well I tried two ways, since I went twice! Daily ANA and JAL flights depart from Sapporo to Nagoya. A cheaper option – unless you take a planned package tour – would be to fly to Tokyo Haneda using AirDo waribiki and then take a train or shinkansen from there. From Nagoya itself, getting to the expo is fairly straightforward.

The Aichi World Expo 2005 is basically the same event that has been held every decade or so since the very first event in London some 150 years ago. It is an occasion for countries and other assorted organizations to show off to the rest of the world. And show off they certainly do! The expo is huge – some 180 hectares in size and walking from one end of the main site to the other takes a leisurely half an hour or so without stopping. Within the site are individual pavilions of varying sizes and sophistication that represents a particular country or organization. Going through all these pavilions, as well as attending special expo events takes several full days – two at the minimum.

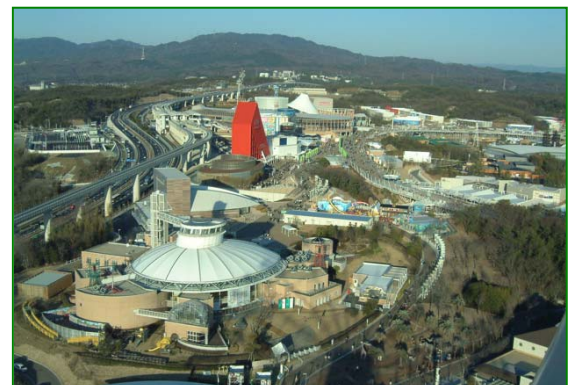
The pavilions are THE reason for going to the expo. Though there is an underlying expo theme of environmental sustainability, this is vague enough for the pavilions to be extremely varied – each is a unique experience in itself, and many people have their own favorites, from the flashy and techy corporate pavilions to more natural and charming mini-museums favored by smaller nations. There really is something for everybody, and for those who can't afford to travel around the world, it is perfect. You should certainly not miss the Japan pavilion's 360° immersive theatre, or Tunisia's delicious couscous, or the preserved mammoth, or the New Zealand Maori warriors in full battle gear... the list is endless. I also unbiasedly recommend Brunei's jungle walk pavilion – see if you can spot the crocodile!



Success does bring its own disadvantages however. Crowds pack the place, especially the more famous pavilions – even on normal weekdays! To beat the queues which can be up to an hour long, you can reserve a place online. Also, the site is open air, even though the individual pavilions aren't. This means a rainy day can mean a very wet day unless you come adequately prepared. There is a lot of walking, especially for those who do not wish to pay for the privilege of being cycled from pavilion to pavilion. Alternative options on getting from A to B do exist however, such as by cable car or maglev linimo that traverses the site's four main entrances.

Maps are provided and you should really plan your day in advance to make the most of the trip. Also, outside food is technically not allowed inside the site – you can buy your meals inside the pavilions at the various restaurants, combini or even pavilions. Malaysia pavilion's roti canai curry was expensive – but very tasty!

The entry fee may seem to be a bit pricy, about 4,000 yen or so for a normal day-ticket, but I think this is reasonable for the experience on offer. It certainly beats Disneyland! If you go all the way there – you may as well spend a few days. All in all I feel that it is a very worthwhile trip, individually or as a group. For more information, and for anyone wanting to have a look at a comprehensive guidebook in English please contact your friendly local travel diarist at [egpseesu@yahoo.com](mailto:egpseesu@yahoo.com)!



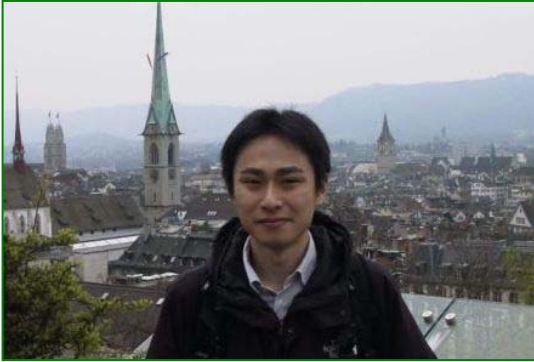
\* *Laboratory of Transportation and Traffic Systems Planning*

## Alumni News

### *Postcard from Zurich*

A new experience in Switzerland

*By Kouhei Nagai \**



Hello friends. Two months had passed since I left EGPSEE and now I live in Zurich, Switzerland. I now belong to the Swiss Federal Institute of Technology Zurich (ETH) as a JSPS postdoctoral fellow which will support me for two years.

Switzerland is surrounded by Germany, France, Italy and Austria, therefore several languages are spoken in this country. Here in Zurich, German is spoken because it is located near Germany. Do you know that Zurich is one of the most comfortable cities in the world to live in? I am staying in a place with a beautiful lake, traditional buildings and well-

developed transportation system consisting of trams and buses. Zurich is not so big a city, with a population of about 360,000, and a one hour trip by train takes us to a place with beautiful scenery that lets us feel the Alps.

However the cost of living is expensive which surprised me very much. For lunch in a usual restaurant, we need 2,000 yen. Japanese food here is much more expensive. Cooking your own meal is indispensable.



The campus of the Institute of Structural Engineering is located on a hill which overlooks the city and Zurich Lake. The laboratory that I belong to consists of my professor, two secretaries, five research assistants who are Ph.D. candidates, one Japanese from a construction company and me. For the experimental laboratory and computer system, other staff members are employed. Since the computer administrator manages everything, no one needs to worry about another's computer problem or ask someone else in the laboratory. Also the experimental laboratory is always kept clean and organized – well, I guess that these staff members improve the efficiency of the research.

Research is carried out mainly by the employed research assistants in which they support the professor's work while proceeding with their own research for Ph.D. This is the usual style for Ph.D. candidates here and they spend usually four or five years for the Ph.D. I eat lunch with them everyday. They usually speak in German because they are either Swiss or German. Sometimes they talk to me in English. Isn't it similar to your current situation (except for Japanese)? The difference is that they can speak English well (I think Nagai is trying to tell something here!). Hence I have no trouble due to language in the campus.

In terms of campus life, I find some differences from the Japanese style. First, they come to the university early and go back home early. Many people including most young research assistants come before 9 o'clock and go back home by 6 o'clock. They enjoy their own time after work. Now sundown is around 9 o'clock because of the introduction of daylight-saving time. Second one is that we have teatime or coffee break time. After lunch and around 3 o'clock, we go to a cafe in the university together and have coffee. Some laboratories have morning teatime at 10 o'clock as well because some of them start work before 8 o'clock. Other than these times, everyone concentrates on the work in the office. In Hokudai, I take a rest by myself at my desk using the internet or chatting with someone. I hadn't gone to the shokudo for coffee. Now I do not know which one - going to cafe together or taking rest by myself - is better for research activity. But I should learn their lifestyle, and enjoy the leisure

time, something that especially Japanese are not good at. One of the other differences is that we do not have seminar in the laboratory. We do not have any official occasion in the laboratory to know and learn the research of other assistants. Maybe it is because the assistants are not 'students' but 'employed staff'. They work under the professor. Information on research does not come automatically, therefore I have to get it personally.

Finally I show you two pictures relating to my daily life. First is a special bag for garbage called 'Zuri-sack', which we must buy at the supermarket. Only this bag is collected by the Zurich city. The notable thing is that the cost of the disposal is charged on the price of 'Zuri-sack'. One bag (35 liters) is about 180 yen. Then, you have to pay more if you produce much garbage. Naturally, people try to reduce their garbage. The second picture shows the recycle boxes for bin and can. People take the bins and cans here. For pet bottles, the supermarket has the box. I think this system is better than that in Japan to reduce the amount of garbage and cost of disposal.



My life in Zurich continues for two years. I am glad to have a chance to see a different culture while conducting my research. I know that the important thing is what I learn through the life here. I will do my best just like what you are doing now at Hokudai.

\* Dr. Kouhei Nagai is an alumnus from the Laboratory of Hybrid Structure Engineering. He received his Ph.D. degree in March, 2005.

## The Graduates

### ***Sixth GRADUATING CLASS (MARCH 2005)***

#### **Ahmed Sabry FARGHALY**

Country: Egypt  
 Division: Structural and Geotechnical Engineering  
 Degree: Doctor of Philosophy  
 Thesis title: Prediction of Punching Shear Strength and Failure Mechanism Based on 3D FEM Analysis for Steel – Concrete Open Sandwich Slabs



#### **Nagai KOUHEI**

Country: Japan  
 Division: Structural and Geotechnical Engineering  
 Degree: Doctor of Philosophy  
 Thesis title: Mesoscopic Simulation of Failure of Mortar and Concrete by RBSM

## The New Students

### *APRIL 2005 INTAKE*

#### **Yadab Prasad DHAKAL**

**Country:** Nepal  
**Division:** Architectural and Structural Design  
**Program:** Master  
**Supervisor:** Prof. KAGAMI



#### **Hiroe HARA**

**Country:** Japan  
**Division:** Built Environment  
**Program:** Master  
**Supervisor:** Prof. WATANABE

#### **Takahito HASHINO**

**Country:** Japan  
**Division:** Solid Waste Resources and Geoenvironmental Engineering  
**Program:** Master  
**Supervisor:** Prof. FUJII



#### **Ryota KONDO**

**Country:** Japan  
**Division:** Human Environmental System  
**Program:** Master  
**Supervisor:** Prof. KUBOTA

#### **Koji MATSUMOTO**

**Country:** Japan  
**Division:** Built Environment  
**Program:** Doctor  
**Supervisor:** Prof. UEDA



#### **Masashi MATSUMURA**

**Country:** Japan  
**Division:** Engineering and Policy for Cold Regional Environment  
**Program:** Master  
**Supervisor:** Prof. KANIE

**Manabu OHYA**

**Country:** Japan  
**Division:** Solid Waste Resources and Geoenvironmental Engineering  
**Program:** Master  
**Supervisor:** Prof. NAWA

**Yoko SHIMAZU**

**Country:** Japan  
**Division:** Built Environment  
**Program:** Master  
**Supervisor:** Prof. OKABE

**Takuma SHIOZAWA**

**Country:** Japan  
**Division:** Human Environmental System  
**Program:** Master  
**Supervisor:** Prof. KUBOTA

**Yuta SUZUKI**

**Country:** Japan  
**Division:** Engineering and Policy for Cold Regional Environment  
**Program:** Master  
**Supervisor:** Prof. KANIE

**Masaki YAMAGUCHI**

**Country:** Japan  
**Division:** Solid Waste Resources and Geoenvironmental Engineering  
**Program:** Master  
**Supervisor:** Prof. FUJII




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## Announcement

### EGPSEE Field Trip 2005

It is our great pleasure to announce the EGPSEE field trip for this year. The field trip consists of exploring Chubetsu Dam and Tunnel (under construction) on August 18 and 19. As a multipurpose dam under the jurisdiction of the Ministry of Construction, Chubetsu dam is constructed as part of the Ishikari river comprehensive development project. Also you would get an opportunity to visit the caves around there and Sounkyo (famous for Sounkyo Onsen). If you (of course your friends too!!) want to be a part of this delightful trip, please register by sending email at [dhannyanto@yahoo.com](mailto:dhannyanto@yahoo.com).

Field Trip Schedule:	<ul style="list-style-type: none"> <li>- August 18th (Thursday) -</li> <li>0900 - Depart Hokudai</li> <li>1200 - Arrive at Chubetsu Dam/lunch</li> <li>1500 - Depart Dam</li> <li>1600 - Arrive at the cave</li> <li>1700 - Depart the cave</li> </ul>	<ul style="list-style-type: none"> <li>- August 19th (Friday) -</li> <li>0800 - Trip to the tunnel</li> <li>0900 - Arrive at the tunnel</li> <li>1130 - Lunch</li> <li>1230 - Depart Kamikawa</li> <li>1330 - Arrive at Sounkyo (Free time)</li> <li>1600 - Return to Sapporo</li> <li>1900 - Arrive at Sapporo</li> </ul>
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