



# Newsletter

No. 32, June 2010

## June 2010- May 2011

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## The Inauguration of the 98<sup>th</sup> President Prof. Kenji Sakata, JSCE Fellow



SAKATA Kenji, Dr. Eng.  
President of JSCE

*Emeritus Professor of Okayama University*

I was appointed the 98<sup>th</sup> JSCE President (2010-2011 Term) in this May. I completed my tenure as a professor at Okayama University in March 2009 after I served as an educator and researcher in the concrete engineering discipline for more than thirty years. Within the JSCE, I worked with mainly Concrete Committee, and from 2006 to 2008 did as the board member who supervised the operation of Research and Studies Division as holding the vice president position. While working with the JSCE, I served as the president of Japan Concrete Institute from 2008 to 2010 and of Japan Society of Dam Engineers from 2009 to 2010.

I view that the year 2010 will become a new beginning for the JSCE as a public interest incorporated association. The JSCE, whose activity is public-interest oriented, will need to shape its business plan and operation to more focus on the contribution to society and human well-being.

Also, the year 2014 marks the JSCE's 100<sup>th</sup> anniversary. There are a few years left till then. It should be the time for us the JSCE members to review our activities and accomplishments for the past hundred years, to draw a future vision, and to plan strategies to realize that vision in the next hundred years.

Outside the JSCE, we have seen political chaos like a change of power and the resignation of the prime minister one after another and a significant cut in public investment in infrastructure development. We should squarely face these baffling situations and their impact on the civil engineering industry, and then make the best move using our wisdom and knowledge to perform our professional roles, duties and responsibilities for society. I would like to remind us all that civil engineering is the engineering to contribute to society and human well-being.

## Photo Report from JSCE Magazine-1 Renovation of the Roadway Tunnel Crossing Kanmon Channel

Kanmon Roadway Tunnel is 3,462 meters long, being consisted of a 780-meter undersea section and two ground sections: 1,371-meter lying in Yamaguchi Prefecture and 1,311-meter in Fukuoka Prefecture. It opened in March 1958, known as a tunnel with a cycling and pedestrian tunnel under it.

Average 2000 cars per day used it in those days. Later, because of motorization in society, tunnel users have grown to seventeen times larger, and the economic activity of the areas around the tunnel have developed significantly.



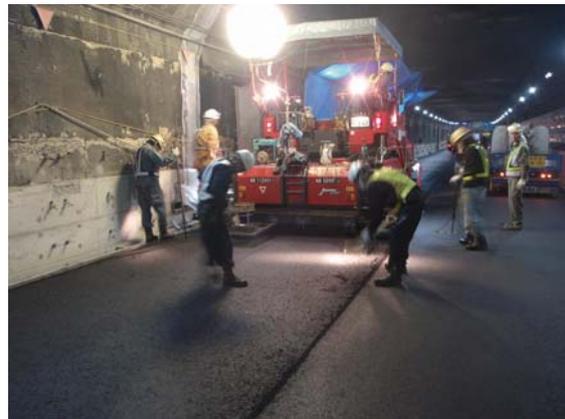
▲ Ceiling panels are being replaced (Moji area)

It has been fifty-one years since the roadway tunnel opened already. Thus, a three-year renovation project has been implemented to prevent that tunnel from deterioration over time since 2008, in which the closures of the entire tunnel are needed to carry out works. In the first year of that program, engineers worked around the clock to replace precast concrete panels on the ceilings of the total 2,682-meter-long ground sections and completed that in sixty days during which the tunnel was closed.

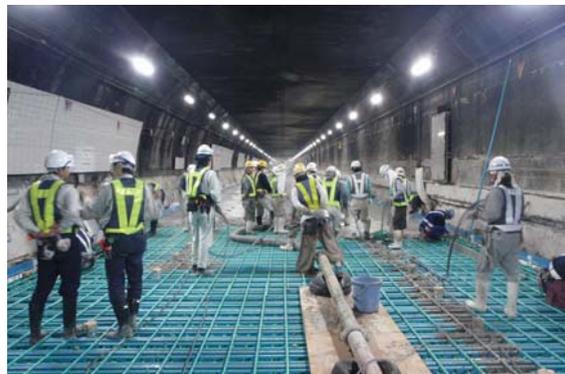
In 2009, the tunnel was closed for one hundred nine days to strengthen the floor of the undersea sections by replacing the panels covering about 380 sq. m. with FRP RC panels.

Then, in the following year, the floor panels on the remaining 400-square-meter-area of the undersea section will be replaced.

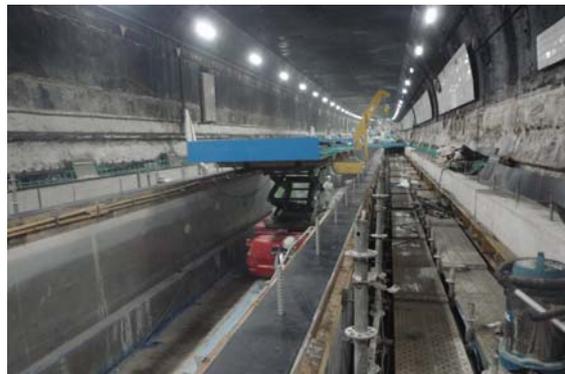
The renovation project will ensure the users “a safer, more secure and comfortable driving environment” in the Kanmon Roadway Tunnel a major artery connecting Kyushu and Honshu islands.



▲ Workers pave the tunnel floor



▲ Workers place FRP RC panels on the floor



▲ FRP PC panels are transferred

(Photos by West Japan Expressway Co., Ltd)

## Photo Report from JSCE Magazine-2 Railroad grade separation project of JR Chuo Line between Mitaka and Tachikawa Stations.

*Elevation of the railway between Mitaka and Kokubunji Stations on the inbound line and removal of 13 railroad crossings*

There was the first run of an inbound train on the elevated railway between Mitaka and Kokubunji Stations on the JR Chuo line on December 6, 2009. The elevated railway made it

Also available on web: <http://www.jsce-int.org/>

possible to remove 13 crossings, or so-called closed crossings, placed between those two stations. Over 11,000 workers began to move the rail track laid on the ground to the one built above the ground at 22:00 on December 5 and completed that work eight hours later. At this completion, the elevated platforms of the three stations Musashisakai, Higashikoganei and Musashikoganei on the inbound line were opened.

The JR Chuo Line railway grade separation project has been conducted by the Tokyo Metropolitan Government and JR East Japan Railway Company since 1999. In this project, the elevation of approx. 6 km-railway between Mitaka and Kokubunji Stations was completed in July 2007, and that of approx. 3 km-railway between Nishikokubunji and Tachikawa Stations in January 2009, and upon the aforesaid rail track elevation work done, the eastward railway between the subject sections have been completed. Next, the track on the westward railway will be laid by the end of the year, and 5 crossings placed between Kokubunji and Tachikawa Stations will be removed.

This project has resulted in much smoother traffic flow in the areas and the integration of communities divided due to the crossings, and further the development of the communities will be expected.

*(essay by Kenichi Nagayama, Tokyo Construction Office, JR East Japan Railway Company)*

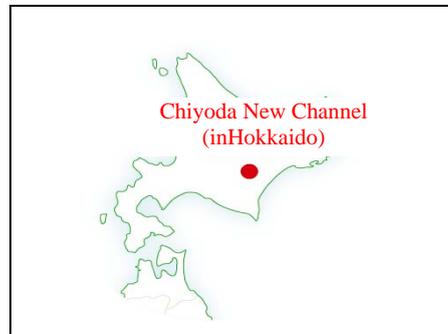
## **Chiyoda New Channel Construction to provide people Utilization as the real-size test water channel, the country's largest**

Chiyoda New Channel is situated in the middle part of Tokachi River, the second longest river in Hokkaido, and near it, there is the old Chiyoda Weir which attracts tourists by offering a good salmon fishing spot. The new channel was constructed to cover the flow capacity of the river. The area of the new channel experienced many floods in the past, and in August 1981 was affected seriously by the flooded river which exceeded the design high water level.

The new channel, which was completed in 2007, is designed to minimize the damages which may be caused by river flooding; the diversion weir on the upper river opens to let water flow into the new channel during the time of flooding. The test channel set up within the new channel, which is the nation's largest one, has been used to conduct actual-size experiments since 2009 to develop solutions to flooding and effective flood control management plan.

*Also available on web: <http://www.jsce-int.org/>*

Around the new channel, Tokachi Ecology Park (409.2 ha) is laid out, where a symbiotic relationship between the people and natural environment will be developed. Many people visit and enjoy the park: it is a place for children to learn about ecology and for citizens to appreciate the green-rich environment provided by the Tokachi River.



▲ A Fishway is studied in an Observation Tank.

*(Photos and essay by Akira Usami, Hokkaido Regional Development Bureau, MLIT)*

## **JSCE Student Tour Grant 2009 study Tour Report (No.3)**

In February of 2009, I was informed that the Japan Society of Civil Engineers sent out invitations to four countries, including the Philippines, for their Study Tour Grant. The Grant will give its recipients an opportunity to visit Japan for seven days to study the latest Japanese Civil Engineering technologies. As stated in the invitation letter, it also aims to enhance the communication between JSCE and its Agreement of Cooperation (AOC) societies in the civil engineering field.

I submitted my curriculum vitae and essay regarding the Engineering sites in Japan that I'd like to explore. Attached, too, were my past and current researches. With the feeling of eagerness to contribute to my society in the future, I was very happy to be chosen as the first Filipino student to be the recipient of the JSCE Study Tour Grant in early July. Indeed, being chosen is an honor.

The following are my day-to-day activities from the time I flew to Japan to the very last day of my stay. My reflections on what I have learned are also included. A table summary showing my itinerary can be found on the last pages.

After I graduated from high school, I knew that I wanted to build. I wanted to build structures that encompass visual beauty, and strictly adhere to the complex rudiments of math and science. At first I didn't even know what profession does so. I had to describe the job I wanted to do to my brother just to learn the profession's name. Civil Engineering! And indeed it is. Four and a half years after that conversation with my brother, I found myself on a very momentous and memorable study tour to Japan sponsored by Japan Society of Civil Engineers. I found myself in what I consider as the Mecca of my chosen career. I have been deeply privileged to witness Japan's beauty, not just with its glorious cherry blossoms; but more importantly, with its front running Civil Engineering innovations which the rest of the world, the Philippines included, revere and imitate.

In college, engineering that does not compromise human safety and the ecosystem caught my interest. I wanted to involve myself in the planning, designing, and construction of structures while making sure that nature's flow isn't obstructed, or worse, destroyed. I wanted to "build green". But where shall I draw knowledge from? Where shall I draw the inspiration, or rather the hope that that kind of engineering is indeed feasible?

When I was informed that I was chosen to be one of the Japan Study Tour Grant recipients, I was excited beyond imagining. I was certain that everything I wanted to see so far, everything I envisioned civil engineering in the Philippines should be, I will see in Japan. I wanted to see Japanese technologies and methods that harmonize civil engineering with the environment, which is crucial especially in our time and generation wherein there is already so much that should be done, and much more that should be undone.

Sure enough, when I arrived in Yotsuya, the place is so urban yet I couldn't smell any smoke from cars. I could hear the crows and see the doves on the sidewalks. It was a perfect picture of nature and engineering technology in balanced and amicable coexistence. I wanted my hometown to be just as healthy as this place.

On our second day of visit, the Integrated Flood Analysis System or IFAS retained on my mind. Such tool would help countries like mine where typhoons are frequent. I could use it together with the program of the University of Yamanashi's Virtual Academy on River Basin

Management, where I am currently enrolled in, to minimize the damage brought about by the 20 or so typhoons that ravage my country annually, destroying crops and infrastructure, and even taking toll on human lives.

The visit to Kajima Technical Research Institute and Obayashi Corporation gave clarity to the benefits of intensive research. It may sound a little cheesy, or perhaps even childish, but I get really excited by the continuous studies for modern methodologies and equipment. But understandably, the efficiency and positive yields of these researches are truly beneficial.

The visit to Akashi-Kaikyo Bridge and construction site of Haneda Airport showed me the application of the theories learned in classrooms. I have witnessed first-hand the ingenuity of the Japanese in building the world's longest suspension bridge as of date.

At the Disaster Reduction and Human Renovation Institution, I felt the importance of being in concurrence with nature. Though strong earthquakes in the Philippines are relatively rare, the damages they cause pose big impacts to our economy, environment and our lifestyle in general. Moreover, and in higher incidence, many places of the Philippines, even in urban areas, experience flash floods and landslides. I know that something has to be done and this visit rekindled my will to be part of whatever solution that is.

We went to other places in Japan showing its historical and modern culture like the Himeji Castle. Clearly, even in ages long before our own, Japan has always been the pioneer of building.

Finally, the study tour gave me the chance to see my options to study my Master's Degree in Japan, particularly in Waseda University or Tokyo Institute of Technology. There is still much to learn about engineering; and this is the place which intensively dedicates its effort in upgrading its engineering, and the world's for that matter.

I would like to say that the Study Tour, brief as it may, really, definitely broadened my horizon regarding civil engineering. It renewed my enthusiasm and excitement towards the career I chose. It defined my reasons to apply what I have learned, for the betterment of my society here at home.

Again, I am really, deeply thankful for the opportunity given to me by the Japan Society of Civil Engineers and the Philippine Institute of Civil Engineers. Thank you so much for the chance to be introduced to Japanese civil engineering. Rest assured that I will convey everything that I learned to my colleagues. Thank you very much for the warm hospitality.

It has been a privilege, an honor, and a life-long gift that I will always hold deep in my person. Japan has filled my mind with unequalled knowledge, and my heart with overflowing

memories I will always be thankful for. My family and I are boundlessly grateful. This has been a very unforgettable and enriching experience. Domo arigatou gozaimasu!



(Jeramee Villadiego Dimapilis)

## JSCE Student Tour Grant 2009 study Tour Report (No.4)

**JSCE Study Tour Grant 2009 Report  
Pornthep Tangariyakul  
Recipient of JSCE Study Tour Grant, 2009  
Student, Civil Engineering Department,  
Mahidol University, Thailand**

It was a pleasure for me to receive the 2009 Japan Society of Civil Engineers (JSCE) Study Tour Grant (STG), which is one of the grants under the Fund for the International Cooperation and Exchange of Engineers.

I was nominated the Engineering Institute of Thailand under H.M. The King's Patronage (EIT). I wish to express my deepest appreciation to both societies, JSCE and EIT, for providing me the opportunity to study the latest technology and science of civil engineering in Japan. During September 6-12, 2009, I have been accompanied by JSCE staff members to visit various construction sites, research institutes and university. The concise report on my visits is given as follows:

### **Disaster Reduction and Human Renovation Institution (DRI)**

In this place I have learned about the effects of the Great Hanshin-Awaji Earthquake and lessons learned from the experience that should be shared with younger generations. DRI also works to communicate expertise and knowledge to the public in an easy-to-understand manner so as to help our cities, communities and ourselves become better prepared against disaster. Such efforts are based on the idea that disaster risk management and mitigation requires involvement not only of the national and local governments but also of local communities and individuals.

### **Akashi-Kaikyo Bridge**

Akashi-Kaikyo Bridge was completed in 1998, and is the largest suspension bridge with center span of 1,991 meters (6,532 feet), spans at 960 meters at each side of the central span, and a vertical clearance of 65.72 meters below. The bridge was designed to withstand winds of 286 KPH, earthquakes measuring 8.5 on the Richter Scale, and harsh sea currents.

The two main supporting towers rise 298 meters above sea level, and due to temperature, the bridge can expand up to 2.0 meters. The total cost of construction is estimated at 500 Billion Yen. For the bridge to last at least 200 years, a technology has been developed using "dry air injection system for main cables of suspension bridges in order to protect the main cable from corrosion by drying the inside of main cable.

### **Waseda University**

Waseda University is a private university located in Tokyo. Founded in 1882 as Tokyo Senmon Gakko, the institution was renamed "Waseda University" in 1902. It is known for its liberal climate symbolized by the motto independence of learning. I have been introduced to Department of Civil and Environmental Engineering in the Graduate School of Engineering.

Dr. Tomoya SHIBAYAMA, Professor of Civil and Environmental Engineering, introduction about the major activities and took me to the advanced facilities such as faculty offices, classrooms, conference rooms, laboratories of this department.

### **11th International Summer Symposium at Tokyo Institute of Technology**

The International Summer Symposium provides a platform for international students and engineers to present, discuss and exchange their research interest in English. International students and engineers are strongly encouraged to participate in the Symposium. From last time, full papers will be reviewed. Organized by The International Activities Committee (JSCE). During the 11th International Summer Symposium, I have participated in Keynote Lecture? Creativity Developing Education at Tokyo Tech and Tour all around Tokyo Institute of Technology.

Finally, I would like to thank The Engineering Institute of Thailand under H.M. The King's Patronage for choosing me to this Study Tour, organizers of Study Tour and all other people who supported me all the way including:

Prof. OTSUKI Nobuaki, Dr. IKEYA Tsuyoshi (International Scientific Exchange Fund Committee, JSCE), Mr. YANAGAWA Hiroyuki (International Affairs Section, JSCE), Dr. Tomoya SHIBAYAMA (Waseda University),

Dr.Kazunori WADA, Mr.KAWAKAMI Atsushi, Mr.Hitoshi UMINO, Dr.Susumu Nakajima, Mr.Naoki YANADORI, Mr.SATOU Yoshiaki (Public works Research Institute), Dr.Sivaleepunth Chunyakom(KaTRI), Mr.Satoru Kawauchi(Deputy General Manager, Obayashi Corp), Mr.LEE Tun Sub, Mr.Min Htoo (Student of Tokyo Institute of Technology).



(Pornthep Tangariyakul)

## 2010 JSCE Annual Meeting International Program

JSCE Annual Meeting International Program focuses on current issues and challenges facing the civil engineering profession. All registrants of the annual meeting are cordially invited to participate in the international program. Please take this opportunity to meet and share ideas and opinions with engineering professionals from around the world. .

○ Venue : Hokkaido University, Sapporo Campus

1. International Roundtable Meeting  
Topic : "Compliance-Oriented Infrastructure Development"  
Date : Wednesday, September 1  
Time : 15:00~17:00
2. 4<sup>th</sup> WFEO-JFES-JSCE Joint International Symposium - Disaster Risk Management  
Date : Thursday, September 2  
Time : 9:00~12:00
3. International Session  
Date : Thursday, September 2  
Time : 10:25~11:55

※ For further details, please visit the JSCE website : <http://www.jsce-int.org>

## Information

New annual membership fees – effective April 2010.

### Membership Fees

(Unit: JPY)

Memberships	Country/ Region	Current <sup>1</sup>	New <sup>2</sup>
Regular Member	Those not included in either Group A or B	12,000	6,000
	Group A	8,000	4,000
	Group B	4,000	2,000
Student Member	Those not included in either Group A or B	6,000	Free <sup>2</sup>
	Group A	4,000	
	Group B	2,000	

\*1: Applicable to those who subscribe to the JSCE magazine

\*2: Applicable to only the members who live in the area or the country where a JSCE International Section is located and do not subscribe to the JSCE magazine

## Event Calendar

### 5<sup>th</sup> CECAR (Civil Engineering Conference in the Asian Region)

Date: August 8-12, 2010

Venue: Sydney Convention and Exhibition Centre

Website: <http://www.cecar5.com/>

### 12<sup>th</sup> International Summer Symposium

Date: Sept 18, 2010

Venue: Funabashi Campus, Nihon University, Chiba, Japan

Website: <http://www.jsce-int.org/iss/iss2010.shtml>

### IABSE-JSCE Joint Conference on Advance in Bridge Engineering-II

Date: August 8-10, 2010

Venue: Roads and Highways Department, Sarak Bhaban, Ramna, Dhaka 1000, Bangladesh

Website: <http://iabse-bd.org/index.php>

### ICDCS 2010- 2<sup>nd</sup> International Conference on Durability of Concrete Structures

Date: November 24-26, 2010

Venue: Hokkaido University

Website: <http://www.eng.hokudai.ac.jp/labo/lifetime/icds2010>

### ACEC-2010- The 3<sup>rd</sup> ASIA Conference on Earthquake Engineering

Date: December 1-3, 2010

Venue: Grand Millennium Sukhumvit, Bangkok, Thailand

Website: <http://www.acee2010.net>

Send your comments and suggestions to: [iad@jsce.or.jp](mailto:iad@jsce.or.jp)

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