



# Japan Society of Civil Engineers

## International Activities Committee

# Newsletter

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June 2008- May 2009

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### Contents

JSCE International Awardee -----p.2	Report of International Activities -----p.5
2008 JSCE Annual Meeting in Sendai -----p.2	Project Report from Algeria -----p.6
Civil Engineering Design Prize, JSCE -----p.3	Student Network -----p.7

## Greetings from President of JSCE



*KAYAHARA Hideo*  
*President*

I was elected in May this year as the President of JSCE for the 2008/2009 term.

I have been the Chairman of the Ports and Harbours Association Japan since 1998 when I retired from the Government service. Before then I had been working as a government official for the Ministry of Transport, the Economic Planning Agency and the National Land Agency, mainly in the field of port planning and engineering as well as strategic planning such as Comprehensive National Development Plans, for more than 34 years since my university graduation of Civil Engineering Department. The Vice Minister for Transport in technical affairs, after the Director General of Ports and Harbours Bureau, was my last professional career in the government service.

As a member of JSCE, I have been actively involved in various activities of the society which include as an editorial committee member when I was very young, and later on as one of the Vice Presidents when colleague board members and I contributed to establishing fellow membership and the certificated engineers system of JSCE.

Strong winds are now blowing in Japan against public works for infrastructural investments and civil engineers as well. Decreasing numbers of the applicants for the civil engineering departments in higher education clearly depicts this trend. As the President of JSCE, it will be my first job, on the one hand, to continue my best efforts in explaining citizens the significance of civil engineering, on the other, to sincerely listen to their criticism. It is my firm belief that the future of the country will be shaded without stable improvement and maintenance of social infrastructures, nor sufficient numbers of engineers in succeeding generation who would be responsible for these works. Already I have committed as the President to a new movement which will make the responsible and devoted engineers apparent on the project sites such as bridges, dams and port facilities etc., in wishing this would provide chances for better understandings of citizens on the significance of infrastructure, and for giving aspirations to the young to consider civil engineering as his or her future career. (continue page2)

The new strategic plan "New National Land Sustainability Plan" was approved by the Cabinet in July this year which advocates that through the direct inter-regional exchanges among Asian countries including Japan, by sharing growing power and confidence, lead to sustainable and stable growth of the countries together with. I am convinced that achieving this would certainly require challenging infrastructural development both in economic and engineering terms, and practical solutions cannot be realized without effective cooperation of civil engineers in Asian countries. The last but not the least, as the JSCE President, I would further consolidate and develop such cooperation and collaboration among Asian civil engineers which have been started in my predecessors.

### **Dr. J.C. CHERN won the 2007 JSCE International Award**



**Jenn-Chuan CHERN**

*International Award winner for the year of 2007*

*Vice-minister, Public Construction Commission, Cabinet, Taiwan (R.O.C.)  
Honorary President, Taiwan Section, JSCE*

The JSCE 94th General Assembly was held at Hotel Metropolitan Edmont on May 30, 2008. At this event, the International Award was presented to five civil engineers for their significant contributions to the advancement of the Japanese civil engineering science and technology. Dr. Jenn-Chuan CHERN, Honorary President of Taiwan Section, JSCE was the only foreign nationality among the award winners.



*Dr. Ishii, Dr. Chern, Prof. Okamura and Mr. Kayahara (from left)*

## **Announce of 2008 JSCE Annual Meeting in Sendai -International Programs-**

The Annual Meeting will feature the international programs focusing on current issues surrounding the civil engineering profession. All registrants of the Meeting are cordially invited to the following meetings. Please take this opportunity to hear the ideas and opinions of our distinguished guest engineers from home and abroad.

**Venue: Tohoku University, Kawauchi North Campus, Multimedia Education and Research Complex**

### **1. International Roundtable Meeting**

Topic: "Who Constructed It?" - Civil Engineers' Revisualization of Goal and Public's Reacknowledgement of Civil Engineers' Achievements

*Date: Wednesday, 10th September*

*Time: 13:00-15:30*

### **2. Panel Discussion**

Topic: "Expectations and Assistance to International Students in Japan"

*Date: Wednesday, 10th September*

*Time: 16:10-18:10*

### **3. WFEO-JFES-JSCE Joint International Symposium on Disaster Risk Management**

*Date: Thursday, 11th September*

*Time: 9:00-12:00*

*Organizers: WFEO, JFES, JSCE*

*Co-organizer: SCJ (Science Council of Japan) (to be determined)*

### **4. 2nd Workshop on Harmonization of Design Codes in the Asian Region**

*Date: Thursday, 11th September*

*Time: 9:00-16:00*

*Organizer: ACECC TC-8*

*"Technical Committee on Harmonization of Design Codes in the Asian Region"*

*Venue: Tohoku University, Multimedia Education and Research Complex Room M401*

*\*For more information:*

*<http://www.jsce-int.org/event/2008/>*

*[annual\\_meeting/international\\_programs.shtml](http://www.jsce-int.org/event/2008/annual_meeting/international_programs.shtml)*

## Civil Engineering Design Prize (CEDP) 2007 Report

### 1. The award ceremony 2007

CEDP held its annual award ceremony at the JSCE hall on May 17, 2008. (Photo 1)

There were thirty-one distinct Civil Engineering submissions that included a wide variety of projects; bridge, station, road, river, park, promenade and so on.

Entries were evaluated through a two tiered selection process by the seven member committee.

From the submitted designs, ten prizes were awarded inclusive of three Civil Engineering Grand Prizes. (Photos 2- 3)



Photo1. Award Ceremony  
taken by Akiyoshi, Nii, Dr. of Eng.  
(Kokushikan University)

### 2. About the CEDP

The CEDP program is managed by the Landscape and Design Committee, a group established within the JSCE. The program has provided seventy-four awards since its inception in 2001.

The objective of this program is to recognize individuals and organizations that have made notable contribution to landscape development and maintenance in public areas of Japan. The intention of this program is to offer the award to individual and organization that accomplished the project through the unique idea or the creative utilization of planning system, and it includes organizational activities of the NGO, NPO or design-committee, etc.. This program emphasizes the individual and organization rather than work itself.

Applications for CEDP 2008 are continuously accepted from July.

\*CEDP Website:

<http://www.jsce.or.jp/committee/lsd/prize/index.html>

By OKADA Tomohide, Dr. of Eng.  
(Secretary of CEDP, JSCE, Nihon Univ.)

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

Photo 2

### Civil Engineering Design Grand Prize



Total Design of Tomata Dam Area  
(Okayama prefecture)



MOERENUMA PARK (Hokkaido)



Landscape and Town planning of  
KANEYAMA (Yamagata prefecture)

(Continue page 4)

**Photo3. Civil Engineering Design Prize**



Shitsumi-Ohashi Bridge  
(Shimane prefecture)



Shoujingawa Hometown River Project -Shoujin Riverside Park Area  
(Hokkaido)



Repair Planning of JR Hamamatsu North Gate Station Plaza  
(Shizuoka prefecture)



Toba Seaside Promenade "Kamome-no Sampomichi"  
(Mie prefecture)



Yahagi River Stream, Fusso and Otsuri-doba  
(Aichi prefecture)



Canal Town Hyogo  
(Hyogo prefecture)



Residential Area "ARCADIA-21"  
(Hyogo prefecture)

■ **Selection Committee**

- Koichi Amano (Nihon Univ.) /Chairman of CEDP
- Kazuhiro Nishikawa  
(National Institute for Land and Infrastructure Management)
- Kazuo Tanaka (GK Design Group Inc.)
- Masao Sasaki  
(Atelier 74 Architecture and City Planning Institute)
- Naoki Egawa (Kansai Univ.)
- Yasushi Onodera (Onodera-Yasushi City Planning Office)
- Yukihiro Shimatani (Kyushu Univ.)

**JSCE News from May to June, 2008**

**May:**

- 2<sup>nd</sup> JSCE dispatch Myanmar-Cyclone Disaster Research Team (to May 3rd).
- 7<sup>th</sup> Philippines Section was established.
- 12<sup>th</sup> Large earthquake hit Sichuan province in China.
- 26<sup>th</sup> JSCE promote organizing "Interdisciplinary Liaison Council for Technological Restoration and Recovery Support for Sichuan Great Earthquake Disaster", with 5 academic societies- Architecture Institute of Japan, Japan Geotechnical Society, Japan Earthquake Engineering Association and Japan Earthquake Society.
- 28<sup>th</sup> JSCE dispatch the 1<sup>st</sup> Restoration Technical Support Team to Sichuan, China (until June 1st).
- 30<sup>th</sup> The 94<sup>th</sup> General Assembly and Awarding Ceremony was held in Tokyo.

**June:**

- 10<sup>th</sup> SVR-JSCE Joint Seminar on Concrete Engineering was held in Bålstra, Sweden.
- 14<sup>th</sup> The Iwate-Miyagi Nairiku Earthquake hit middle of Tohoku district, Japan.
- 15<sup>th</sup> JSCE dispatch Iwate-Miyagi Earthquake Disaster Research Team with Japan Geotechnical Society (until June 19th).
- 20<sup>th</sup> Debriefing of Iwate-Miyagi Earthquake was held in JSCE Headquarters.
- 20<sup>th</sup> JSCE dispatch the 2<sup>nd</sup> Restoration Technical Support Team to Sichuan, China (until June 25th).
- 28<sup>th</sup> Inauguration Ceremony of Philippines Section of JSCE was held in Manila, Philippines.

## International Familiarization of ISO Code for Performance-Base Design for Geotechnical Engineering



TOWHATA Ikuo  
Professor of the University of Tokyo

The shrinking of public investment in the recent times gives an impression that construction business has to be patient under adversity. It should however be recalled that, since Meiji period, most Japanese industries have been gaining good income from overseas market, and that this overseas-oriented attitude has been the fundamental theme of Japan where population is large and natural resources are insufficient.

The competition in the international market should not be the one on price, because, if involved in such a competition, there will be no meaning of overseas expansion. It is ideal to carry into competition of quality or an intellectual level so that better profits may be obtained. In this regard noteworthy is that research aiming overseas markets is already developed at the research institute of Korean construction industries. The speed of decision-making is the good point of this nation.

For a successful competition of quality or an intellectual level, it is a good idea to make a good fame of the Japanese construction industries. The good fame is the basis that makes people trust the Japanese industry irrespective of the price to be paid. Potentially promising field of engineering in this regard is the mitigation of natural disasters. In Japan, there are such types of natural disasters as earthquakes, heavy rainfalls, and typhoons, and mitigation technologies have been trained and verified by such real phenomena. This historical fact is an actual proof that induces people's faith securer than anything else.

With the viewpoint as above, an international activity is going on in which performance-based design principles for geotechnical earthquake engineering is pushed toward the international market. With a financial support from NEDO of Japanese government and under the co-sponsorship of JSCE (Geotechnical Engineering Committee),  
*Also available on web: <http://www.jsce-int.org/>*

this activity organizes international workshops in many countries of the world where earthquake problems are serious. It is therein intended to push forward the recently established ISO Code so that performance-based design principle is made familiar in the world. As is well known, the performance-based design (PBD) principle requires assessment of (seismic) performance of structures and this assessment needs good levels of knowledge and experience in the particular field. If this design principle is set in force in overseas market, good and well-experienced engineers in Japan and probably USA will be able to get more business. Furthermore, the workshops put emphasis on not only the engineering advantage of PBD but also the financial advantage that is more easily understood by financial officers and tax payers. For this purpose, examples designs were made of geotechnical structures from the viewpoint of life cycle cost (LCC).

Among the series of international workshops on PBD and LCC, the first one took place in London in March at the Institution of Civil Engineers (ICE); see Photo 1. This event was important in that it was the first JSCE-ICE joint event after a presidential agreement was signed last Fall for future collaboration. Speakers were the writer and Prof. Iai of Kyoto University who convened the aforementioned ISO together with Prof. Soga of Cambridge University, who is currently a representative of UK Chapter of JSCE. Several good engineers were also invited from UK side. Following events, similar ones have been organized in LCPC (Laboratoire Central des Ponts et Chaussées) of France, Nante, at ASCE Geotechnical Earthquake Engineering Conference in Sacramento, and at GEDMAR Conference in Nanjing, China. Although this series of workshops will complete in Teheran in August, it is planned that a similar one will be organized in Japan under the auspices of Japan Association for Earthquake Engineering.



*Photo: PBD workshop at ICE in London in March, 2008.*

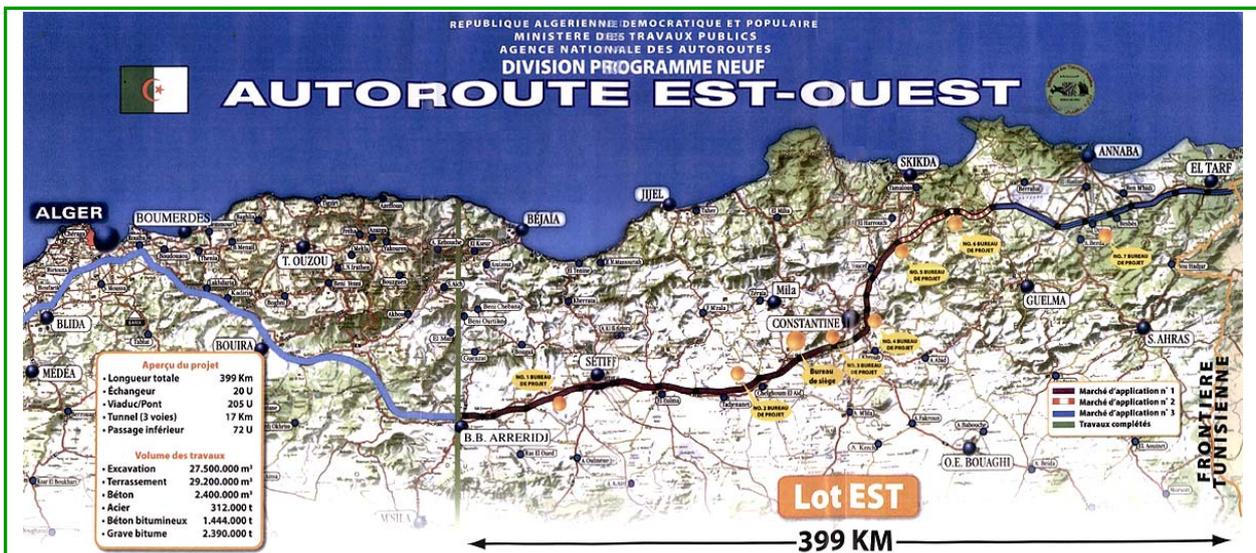
## Construction of Algerian East-West Highway by Japanese Consortium (COJAAL)

People's Democratic Republic of Algeria is a Muslim country located in the North Africa along the Mediterranean Sea. The total area is about 2.4 million km<sup>2</sup>, where the majority is occupied by Sahara desert. The population is about 34 million, 80 % of which are Arabic, and others are Berber. Atlas Mountains are located in the northern part of Algeria.

A mega construction project of the Algerian East-West Highway is ongoing under the National Highway Agency (ANA: Agence Nationale Des Autoroutes). The total distance is about 1200 km from the border with Tunisia to the other border with Morocco. The highway is planned to have three lanes each way throughout its length.

The construction is divided into 3 lots, i.e. East Lot, Central Lot, and West Lot. The design-build contract of the East Lot with the distance of about 400 km was awarded to the Japanese consortium, "COJAAL: Consortium Japonais Pour l'Autoroute Algerienne". The COJAAL consists of five Japanese companies (Kajima, Taisei, Nishimatsu, Hazama, and Itochu). The total construction order amounts to about 540 billion Japanese Yen, which is the largest international infrastructure project awarded to Japanese companies. The construction period was set at 40 months after the 1st agreement of the contract on September 2006.

The East Lot is divided into 12 sections. All the sections except those completed by the Italian contractors are assigned to COJAAL. The Head quarters of COJAAL are located both in Algiers and



Constantine. Seven camps are dotted along the highway set up by the member of COJAAL. At the moment, more than 600 Japanese staffs are working together for the project in Algeria. The total number of staffs and workers reaches about 28,000.

The construction scale of the East Lot is tremendous. The earthwork volume reaches about 59.4 million m<sup>3</sup> of fill, and 79.9 million m<sup>3</sup> of cut and excavation just only for the East Lot. COJAAL is also in charge of the construction of 3 tunnel sections and 50 bridges.

The geological conditions are very complex due to the long period of fold activities of Atlas Mountains, which causes difficulty in tunnel excavations. The ground profiles at the site consist of soft soils over impermeable marl deposits. Therefore, unless some appropriate measures are taken, even very gentle slopes may cause landslides. A number of experts including university professors in the fields of landslides, earthwork, tunneling, pavement, and concrete have visited COJAAL to tackle technical issues of each field.

Algeria has just entered the summer dry season. The project is also entering its peak stage in this summer.

By *ISHIDA Minoru (COJAAL, Kajima Corporation)*  
*KOSUGE Makoto (COJAAL, Taisei Corporation)*

## **Student Network -Voice from the Students-**

### **Construction and Management of Bridge and Highway Systems in Japan**



Name: Le Thanh Nam  
Country: Vietnam  
School: KYOTO UNIVERSITY

What Japanese infrastructure systems struck me, a civil engineering student from Vietnam, was the integration of the whole system grounded on the solid base of advanced

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

construction and networking technology. The most impressive infrastructures include a high-speed bullet train *Shinkansen*, sea-airport terminals, and large-scale bridges, tunnels and highway systems. Today I would like to share my impression on the construction and management of bridge and highway systems in Japan.

First of all, it is about the design. It appears to me that urban infrastructure in Japan has been designed in such a way that not one component but all the components of one city or even the country has been well integrated with one another. The construction of bullet train *Shinkansen* and Kansai airport are good examples. This integration allows construction of mega-scale infrastructure that is smoothly connected to the existing set of urban infrastructure in operation. Construction work itself will not hamper ongoing operation of other transport systems. This sophisticated level of integration is reflected in development of mathematical asset management model that I am working on in Japan at the moment. I came to know that the construction and management of infrastructure in Japan extensively involves various mathematical modeling in order to predict life cycle costs of each infrastructure component, allowing the government to allocate the budget to the right location at the right time. Such practice is yet unknown in Vietnam where construction of a structure can be suspended at any times as soon as budget is found in short even in the middle of construction.

Secondly, construction of any structures in Japan strictly follows rigid safety regulations and environment protection standards. Facilities are frequently inspected and monitored for preparedness of incident occurrences and environmental impacts such as wastewater discharge and air emission. In Vietnam, even use of safety helmets by construction labors has not been obligated. Vietnam also has environmental standards of infrastructure and industrial settings but inspection and monitoring are rarely conducted in an appropriate and justifiable manner.

The opportunity to study this infrastructure construction and management system in Japan will definitely be a valuable future asset for me. I am certain that my country can learn through benchmarking some of the success stories in infrastructure management in Japan. I wish to learn more about this system and ultimately contribute to the development of infrastructure systems in Vietnam by sharing my skills and knowledge that I will gain during my stay in Japan.

## Information

### Event Calendar

#### JSCE 2008 Annual Meeting & 63rd Annual Conference

Date: September 10-12, 2008  
Place: Tohoku University, Sendai, Japan

#### International Program

Day 1: Sep. 10, 2008  
1) Roundtable Meeting  
2) Panel Discussion  
Day 2: Sep. 11, 2008  
3) WFEO-JFES-JSCE Symposium  
4) 2nd Workshop on Harmonization of Design Codes in the Asian Region

#### The 10th International Summer Symposium, JSCE

Date: Sept 18, 2008  
Place: JSCE Headquarter, Tokyo, Japan

\*For more information: <http://www.jsce-int.org/>.

#### September 2008

**14-19 IABSE Annual Meetings and Congress 2008**  
Venue: The Westin Michigan Avenue Hotel, Chicago, USA  
URL: <http://www.iabse2008chicago.org/>

**30-Oct. 2 8th International Conference on Creep, Shrinkage and Durability of Concrete and Concrete Structures**  
Venue: Shima-Kanko Hotel, Mie, Japan  
URL: <http://concrete-lab.civil.nagoya-u.ac.jp/concreep8/index.htm>

#### October

**12-17 14th World Conference on Earthquake Engineering**  
Venue: Beijing Jihua International Conference and Exhibition Center, Beijing, China  
URL: <http://www.14wcee.org/>

**27-29 8th International Symposium on Utilization of High-Strength and High-Performance Concrete**  
Venue: Toshi Center Hotel, Tokyo, Japan  
URL: <http://www.jci-web.jp/8HSC-HPC/index.html>

#### November

**5-7 ICSE-4 Tokyo 2008( Fourth International Conference on Scour and Erosion)**  
Venue: Surugadai Memorial Hall , Chuo University, Tokyo, Japan  
URL: <http://icse-4.kz.tsukuba.ac.jp/index-e.html>

**23-25 International Workshop on Frontier Technologies for Infrastructures Engineering (IWFTIE2008)**  
Venue: National Taiwan Univ. of Science and Technology, Taipei, Taiwan  
URL: <http://www.iwftie2008.com/>

**19-21 EASEC – 11 (East Asia-Pacific Conference on Structural Engineering and Construction)**  
Venue: National Taiwan Univ., Taipei, Taiwan  
URL: <http://easesc11.easec.org/index.html>

### Call for Paper

#### ConMat '09

Date: August 24 -26 2009  
Place: Nagoya Congress Center, Nagoya, Japan  
Important Dates:  
*Submission Abstract: September 15, 2008*  
*Notification of acceptance: November 15, 2008*  
Submission manuscript: January 31, 2009  
*Notification of acceptance: March 31, 2009*  
Submission final manuscript  
URL: <http://www.jci-web.jp/conmat09/>

#### Coastal Dynamics 09 (Tokyo)

Date: September 7 -11 2009  
Place: Toranomon Pastoral Hotel, Tokyo, Japan  
Important Dates:  
*Abstract Submission*  
Open on the web: October 1, 2008  
Ddeadline: December 22, 2008  
URL: <http://www.coastal.jp/cd09/>

#### IABSE Symposium 2009 – Sustainable Infrastructure

Date: September 9 -11 2009  
Place: Bangkok, Thailand  
Important Dates  
*Abstract Submission: August 31, 2008*  
URL: <http://www.iabse.org/conferences/Bangkok2009/index.php>

#### Coasts, Marine Structures and Breakwaters 2009

Date: September 16 -18 2009  
Place: Edinburgh International Conference Centre(EICC), Scotland, UK  
Important Dates  
*Abstract Submission: August 1, 2008*  
URL: <http://www.ice-breakwaters.com/>

### Let's Join to JSCE!

We invite you to become a JSCE Member.  
JSCE Membership includes member benefits discounts and privileges. The members also can have many opportunities to participate in various JSCE activities, to achieve their professional development goals and to work with engineers all over the world.

If you interested in JSCE, please visit the JSCE website <http://www.jsce-int.org>.

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

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