



# Japan Society of Civil Engineers

## International Activities Committee

# Newsletter

No. 17 January 2005

## JSCE 90<sup>th</sup> Anniversary Commemoration



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Chair of Special Committee for the JSCE 90<sup>th</sup>  
Anniversary Commemoration Projects

### Introduction

JSCE celebrated the 90<sup>th</sup> anniversary from its foundation in 1914 in November 2004. In commemoration of the anniversary, JSCE organized Special Committee for the 90<sup>th</sup> Anniversary Commemoration Projects, and arranged various activities with the cooperation with the special committee. Among those activities were included holding an essay contest, issuing “the JSCE Journal: Special Edition in Commemoration of the JSCE 90<sup>th</sup> Anniversary,” producing promotional videos of civil engineering and publishing a brief history of JSCE’s activities in the past decade, and holding the commemoration exhibition “Koui Furuichi and His World” and also special lectures and panel discussions as well as a commemoration ceremony. Some details of these activities are as follows:

### Essay Contest

An essay contest invited all levels of people from grade school students to adult to submit an essay with the topic “Views of our tomorrow’s lives.” For each of the category, after a careful review of the submitted essays, selected 4 essays for Highest Excellence, 8 for Second Excellence and 14 for Excellence.

In the essay contest, a wide range of people from grade school students up to 77-year-olds participated by submitting an essay. By reviewing all submitted essays, not only prized ones, but the ones which were not chosen for prizes with a narrow margin, we learned those participants’

profound and keen thoughts concerning building “the bright future of the society” expressed in any of their essays, and received them as useful and meaningful messages to civil engineers for their future activities. In order to respond to these messages, we will make an effort to carry on better communication with the general public as an assignment for the future.

### JSCE Journal: Special Edition in Commemoration of the JSCE 90<sup>th</sup> Anniversary

With full cooperation of the Editorial Committee on Journal of JSCE, JSCE Journal: Special Edition in Commemoration of the JSCE 90<sup>th</sup> Anniversary was issued. In the journal, as the special feature “Future of civil engineering,” engineers, consultants, the JSCE members from public and private sectors, students and relating fields had a round-table discussion under the catchphrase “Civil engineers, restore your confidence and pride as a civil engineer.” They exchanged their opinions on the tasks to be assigned to the civil engineering field, responsibilities of professional civil engineers, and future and perspectives of civil engineering. The round-table discussion, which was organized aiming at encouraging the younger members to pursue their future goals as civil engineers, obtained the aim fully. As another feature the journal showed JSCE’s activities in the past decade along with pictures chronologically and also featured the article “JSCE’s next decade, Dreams of the 100<sup>th</sup> anniversary.” In addition, five pieces of essay chosen from among the members’ were published under the title “JSCE’s fulfilled responsibilities and its future visions.”

### Commemoration Ceremony

The commemoration ceremony for the JSCE’s 90<sup>th</sup> anniversary was held on November 18, 2004 in Tokyo. At the ceremony, the winners of the essay contest were awarded, and also the introduction of foreign guests and kind congratulation given by Prof. Soo-Sam Kim, President of KSCE, were made. Then, the commemoration speech “Revitalization of Japan” was given by Prof. Jitsuro Terashima, the president of Mitsui Global Strategic Studies Institute. Following the speech was the panel discussion held on under the title “Exploring guidelines on the future society through reviewing from the past

social infrastructure” with the coordinator Prof. Norihito Tambo, who is the headmaster of the University of the Air. Every panelist of the JSCE members contributed his/her views, opinions and ideas on the ideal civil engineering and the responsibilities of civil engineering to the society. The panelists from outside JSCE expressed their thoughts and expectations of the role to be played by JSCE. The panel discussion turned out very productive in laying out the future JSCE.



Invited guests from ASCE, CCES, KSCE, MACE and JSCE Korea Section

### **Publishing the Brief History of JSCE**

JSCE's activities conducted through from 1994 to 2004 are compiled into the brief history of JSCE “Review the dramatic decade of JSCE.” It is comprised with mainly two sections: one is the interviews with the former presidents, and the other the brief history “Major events in the past decade.” In the interviews, the former presidents talked about their views on the JSCE's activities on the past ten years. These interviews are regarded as messages toward JSCE's future role to play for the benefit of the society.

The other feature, the brief history of JSCE, includes the talks of the former members, who worked at the forefront in promoting the civil engineering society, under the theme “Major Events on the Past Decade,” whose topics contains urban cities' revitalization and rural cities' decline, the changes of public views of civil engineering, examinations of social infrastructure, JSCE's activities for natural disasters, JSCE's philosophy.

### **Conclusion**

With much contribution and cooperation of The Special Committee for the 90<sup>th</sup> Anniversary Commemoration Projects, organizers, related committee members and staff of JSCE, the commemoration projects, the civil engineering society could sum up its activities during this decade. In ten years, the 100<sup>th</sup> anniversary comes. Until then, the society have to work on a lot of assignments given on its shoulders, bringing the wisdom, intelligence and efforts of the member engineers together, and then will open another door of further development and enhancement of the society.

Before closing this, I would like to express my deep gratitude for all who contributed their time and efforts to make the commemoration projects successful. Thank you very much.

## ***JSCE Annual Meeting 2004 Report***

The 59th JSCE Annual Meeting was held in Aichi Institute of Technology in Aichi Prefecture from September 8<sup>th</sup> through 10<sup>th</sup> 2004. The meeting venue was located near the city of Nagoya, the third largest city in Japan after Tokyo and Osaka. As it was also located near the 2005 Aichi Exposition construction site, our overseas guests were able to incorporate technical visits to sites for Linimo (linear motor line) or pavilion constructions.

The Annual Meeting ended in a successful note with the total of 19,487 participants and 3,681 papers presented in more than 21 sessions. As in previous years, the Roundtable Meeting, English Panel Discussion as well as the International Reception were held for our overseas guests.

### **Roundtable Meeting**

On September 8<sup>th</sup>, the roundtable discussion was held under the theme of “New Paradigm of Civil Engineering and the Mission of Civil Engineers.” Thanks to the wide participation by delegates from overseas agreement of cooperation societies, the discussion was a lively and fruitful one. Delegates from Chinese Institute of Civil and Hydraulic Engineering (CICHE), Korean Society of Civil Engineers (KSCE), Thai Institute of Engineering (TIE) and Nepal Engineers' Association exchanged their views with JSCE delegates on this important topic that touches engineers in all nations.

Delegates reaffirmed that the engineers in developed countries share common issues such as the paradigm shift in the engineering field and the need to embrace new sense of mission and the responsibility when the focus of the society has shifted from rapid development to maintenance and sustainability. However, the discussion also shed light on the need for the engineers in developing countries to reaffirm their sense of mission as the leader in promoting sustainable development of their nations.

### **English Panel Discussion**



In the afternoon of September 8<sup>th</sup>, the English Panel Discussion provided an occasion to continue the discussion on the topic of the roundtable meeting. This panel discussion on the “New Paradigm of Civil Engineers and the Mission

on Civil Engineers” was chaired by Prof. Shunji Kusayanagi and was joined by prominent panelists representing diverse civil engineering sectors and countries such as Mr. Tadahiko Tazaki, from the Organization for Road System Enhancement, Mr. Akihiko Hirotani, from the Oriental Consultants, Prof. Seigo Nasu from the Kochi University of Technology, Dr. Chi-Chou Hsieh, representing CICHE, Mr. In-Kuin Kim, representing KSCE and Prof. Taweeep Chaisomphob representing TIE.

*By Ryoko Okamoto (JSCE)*

### ***Niigata-Chuetsu Earthquake: A Strong Quake hits Niigata Prefecture***



Photo 1- Collapsed National Road 117 in Ojiya City (by Dr. Kokushou)

On October 23, 2004 at around 17:56 local time, an earthquake of M6.8 (provisional) occurred at a depth of 13km in Chuetsu region in Niigata Prefecture in northeastern Japan. Strong quake was observed in many regional cities such as Nagaoka City, Ojiya City, Kawaguchi City as well as villages in rural areas such as Yamakoshi-mura. The maximum observed seismic intensity on Japanese scale was 7 in Kawaguchi City. It was followed by frequent aftershocks as big as 6 upper on Japanese scale. This chain of earthquakes claimed the lives of about 40 people and caused great damages to the houses and infrastructures in the Chuetsu region.

JSCE organized its first investigation team promptly after the occurrence and undertook on-site investigation with the cooperation of the Japanese Geotechnical Society. This was followed by the dispatch and active research by the second investigation team and the Kanto Chapter investigation team.

Some of the characteristics of this earthquake are as follow:

- 1) Large scale landslides and slope collapses occurred because the quake-stricken area was on active folds from the tertiary system and was geologically weak, and because the ground was saturated due to heavy rainfall right before the earthquake occurrence.
- 2) The damage is prominent in rural mountainous areas where the population is aged and sparse.

3) Derailing of Shinkansen in operation occurred for the first time in its 40 years of history.

4) The tunnel frame structures were heavily damaged.

On the other hand, it was encouraging for us, civil engineers that the lessons from the Hanshin-Awaji Great Earthquake of 10 years ago were applied when the conditions in quake-stricken areas were grasped immediately, the road transportation was promptly secured and seismic reinforcements that were applied to structures such as bridge piers after the Hanshin-Awaji Earthquake proved to be effective.

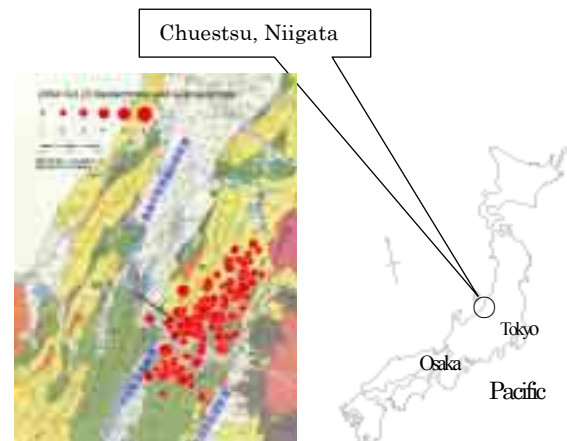


Fig.1-Location of the seismic center (right) and the distribution of aftershock seismic centers (left.)

*By Moriyasu FURUKI (JSCE)*

### **KSCE Annual Meeting**

From October 20<sup>th</sup> through 22<sup>nd</sup> 2004, the Korean Society of Civil Engineers held their 2004 Annual Meeting at Phoenix Park Resort, located about three hours drive away from Seoul. From JSCE, Prof. Masatoshi Shidawara of the Aichi Institute of Technology (JSCE Vice President) and Mr. Ryuichi Imai of the JSCE Committee on Information Technology participated.

The international roundtable meeting on Oct.22<sup>nd</sup> on the theme of “Civil Engineering in the Digital World” was chaired by Prof. Ha-Won Song of Yonsei University and was joined by four panelists including Prof. Shidawara. The discussion opened with the KSCE presentation about ITS and GIS and construction CALS/ EC as examples of informatization efforts in Korea. In his presentation, Prof. Shidawara proposed the development of standard format for data exchange as well as creation of digitalized civil engineering encyclopedia. The event included an outdoor banquet on Oct. 21<sup>st</sup> participated by about 1,900 people as well as a memorable International Dinner on Oct.22<sup>nd</sup>.

*By Ryoko Okamoto (JSCE)*

*Based on the report submitted by Mr. Ryuichi Imai*



## ASCE Annual Convention

Again this year, JSCE delegation participated in the ASCE Annual Convention, which took place from October 20<sup>th</sup> through 23<sup>rd</sup> in Baltimore Convention Center in Maryland, U.S.A. The JSCE delegation was composed of President Morichi, Vice-President Kusayanagi and Mr. Yumio Ishii, advisor to the International Activities Committee, JSCE.

At the opening ceremony, the keynote speech was given by Ms. Marsha Johnson Evans, the CEO of the American Red Cross. International events included an international delegation luncheon with the ASCE board members on the 20<sup>th</sup>, an International Dinner on the 22<sup>nd</sup> and an International Roundtable on the topic of "Technical Capacity Building in Developing Countries." Mr. Ishii introduced the Japanese history and efforts at capacity building in his presentation. He has also spoken about the JSCE activities related to ethics and professional practice during a workshop on "Global Standards of Professional Practice."

## 2004 JSCE Study Tour Grant



Mr. Adhikari with the Chairman Hori of the Scientific Exchange Committee, JSCE

Every year, JSCE International Scientific Exchange Fund is used to invite one young civil engineer, nominated by overseas agreement of cooperation societies to Japan to visit Japanese civil engineering related facilities and to study about the current states of civil engineering in Japan. The 2004 Study Tour Grant was awarded to Mr. Nagendra Adhikari from Nepal Engineers' Association who visited Japan from August 30<sup>th</sup> through September 15<sup>th</sup> 2004.

Mr. Adhikari works for the Ministry of regional development in the project for remote-area development. He also serves on the board of directors of NEA and is also active in environment-related NGO activities.

In Japan, Mr. Adhikari visited various research institutions such as the Earthquake Research Institute of the University of Tokyo, Public Works Research Institute in Tsukuba, National Research Institute for Earth Science and Disaster Prevention, and Obayashi Civil Engineering Research Center as well as some construction sites. During his stay, he also

participated in the JSCE Annual Meeting in Aichi prefecture and from there, visited Asian Disaster Research Center, and the Great Hanshin Awaji Earthquake Memorial Hall among other offices and facilities in Kobe and the Kansai region.

Despite his brief stay in Japan, we are certain that Mr. Adhikari's positive and communicative attitude contributed in promoting the friendship and information exchange between the two societies as well as among civil engineers in two countries.

*By Ryoko Okamoto (JSCE)*

## The JSCE-PICE-NCTS Joint Seminar on Sustainable Urban Transport Systems

The JSCE-PICE (Philippine Institute of Civil Engineers)-NCTS (National Center for Transportation Studies, University of the Philippines) Joint Seminar was held at the Dusit Nikko Hotel, in Makati City, Metro Manila, Philippines, on November 6, 2004, on the theme "Sustainable Urban Transport Systems". The seminar began with the opening speeches by Dr. Primitivo C. Cal, National Secretary of PICE, and then 13 research papers (7 from Philippines and 6 from Japan) were presented. About 80 engineers attended the seminar and they discussed about the topics actively and exchanged their opinions. At the end, Dr. Eiichi Taniguchi, Former Secretary-General of International Activities Committee of JSCE, provided closing remarks.



Presenters and NCTS Staffs

The seminar was the great success and we express sincere thanks to Dr. Sigua, Dr. Karl and the other staffs of NCTS who kindly arranged for the seminar.

*By Toshio Yoshii (Kyoto University)*

## **Report on Civil Structural Health Monitoring (CSHM) 2004 Hawaii, 10-13 November 2004**

### **1. INTRODUCTION**

CSHM-2004 (Civil Structural Health Monitoring-2004) North American Euro-Pacific Workshop with theme "Sensing Issues in Civil Structural Health Monitoring" was successfully held in The Royal Hawaiian Hotel, Waikiki Beach, Oahu, Hawaii, USA from 10 to 13 November 2004. Over 50 representative delegates from North-America, Europe and Pacific countries were invited to participate this workshop (see Photo1).



Photo 1. Commemorative photo of the CSHM-2004 delegates

This workshop was organized by Prof. Farhad Ansari, Department of Civil and Materials Engineering of University of Illinois at Chicago (UIC), and supported by an International Organizing Committee, i.e., Alessandro De Stefano of Politecnico di Torino Italy, Wolfgang Habel of BAM Germany, Hyun-Moo Koh of Seoul National University Korea, Sung Kon Kim of Seoul National University of Technology Korea, Aftab Mufti of ISIS at University of Manitoba Canada, JinPing Ou of Harbin Institute of Technology China and Prof. Zhishen Wu of Ibaraki University Japan. This workshop was sponsored by National Science Foundation (NSF), American Concrete Institute (ACI), National Natural Science Foundation of China (NNAFC), ISIS Canada Research Network, International Society for Structural Health Monitoring of Intelligent Infrastructure (ISHMII). There were 11 participants from Japan who were led by Prof. Zhishen Wu of Ibaraki University Japan as shown in Photo2.



Photo 2. Participants from Japan led by Prof. Zhishen Wu of Ibaraki University (upper row, two from right)

### **2. The Essence and aim of CSHM**

Structural Health Monitoring of civil structures requires selection and placement of sensors suitable for measurement of key parameters that influence the performance and health of the structural system. Some of the primary issues of concern that impede rapid implementation of sensor technologies include large size of structures, diversity of construction materials, need for multiplexing and distributed sensing, harsh construction environment, adverse exposure conditions, long term reliability and durability, and in existence of sensors for measurement of relevant parameters of importance in civil structures. The Workshop's Goal is to develop a coordinated research program addressing issues related to sensor packaging, attributes, construction site and placement issues, durability, reliability, multiplexing, distributed sensing, standards and specifications, data acquisition and interrogation systems. The final products of the workshop will be in the form of a hardbound book detailing the state-of-the-practice, and a comprehensive report outlining a detailed plan for research.

### **3. TOPICS**

The topics discussed in the North American Euro-Pacific Workshop on Civil Structural Health Monitoring can be summarized and expressed as follows.

- Global perspective on Structural Health Monitoring of Civil Infrastructure Systems
- Monitoring Issues in Ancient and Modern Structures
- Sensing of Loads, Strains, Anomalies, and Extreme Events
- Smart Sensors, Imaging and NDT of Civil Structures
- Sensor Implementation, Data Quality, Processing, and Interpretation
- Sensors, Instrumentation, Performance, and Reliability
- Fiber Optic Sensors and Principles
- Long Term Monitoring, State-of-Practice, and Case Studies

### **4. CONCURRENT TECHNICAL COMMITTEE**

At the end of workshop, three concurrent technical committee meetings were held in Sheraton Moana Surfrider Hotel on Saturday, 13 November, 2004. Three technical committees were (i) Technical Committee I which was held at Parlor Room and in charge of Sensor Attributes and Placement Issues, (ii) Technical Committee II which was held at The Boardroom and in charge of Sensor Reliability for Long Term Monitoring, and (iii) Technical Committee II which was held at Admiral Room and in charge of Standards and Specifications.

*By Sunaryo Sumitro  
(Keisoku Research Consultant)*

## A Professional Walk through Uncharted Waters of Japan



**KERATI K.**

*Transport Planning and  
Management Department*

*Pacific Consultants International*

The quest for knowledge has brought me to experience the best of both western and eastern world. I was born in Nakhonsawan, a small province in northern Thailand. As a young boy, I was aspired to become a civil engineer to follow my father's footstep. After finishing Junior High school, I received a scholarship to study at Damascus High School in Maryland, USA. It was there that I experienced foreign country for the first time. After that, I return back to Thailand to study civil engineering at Sirindhorn International Institute of Technology, Thammasat University.

I first experienced Japan when I received a scholarship from Keidanren to be trained at Ichikawa-jima Harima Heavy Industry during my senior year in Thammasat. I was impressed with Japan's Industrial Technology and its application to enhance safety and comfort of human life. After I graduated, I took an examination and received the Monbusho scholarship for graduate study in Japan.

I arrived in Japan for the second time in autumn of 1999. I still clearly remember my first day at the University of Tokyo. Yellow leaves fallen from Ginkgo trees spread across pave way like giant yellow carpet. I met with Prof. Hitoshi Ieda, a kind and energetic man who became my adviser and counsellor for the next 5 years. I was also warmly welcomed by several Japanese colleagues at Transportation Research and Infrastructure Planning laboratory. Thanks to the help of Japanese friends and instructors at the university, I eventually learn to adapt to Japanese language and culture.

It took much effort and determination, but at the end I was able to complete my Master and Doctoral course. My proudest moment during my graduate years is when I received the Furuichi Award for academic excellence upon my graduation in the master course. I am the first Thai student to receive the award. I am glad that I was able to leave good impressions about Thai students to Japan's top university.

After I graduated, I join Pacific Consultant International (PCI) which is one of the leading firm in infrastructure development and planning in Japan. I am very impressed with the scope and scale of consultant projects that accomplished by PCI worldwide. My boss, Mr. Isamu Gunji and I have heard about Japan's ODA and its role in international development for a long time, but it is here that I get the first hand experience and get to know many dedicated people who strive to improve

the quality of life in the most remote corner of the world.

After World War II, Japan was devastated and its people were left with hardship. The country's infrastructure and economy was in worse shape than many Asian neighbours. However, within 30 years, Japanese people were able to restore and develop their country. Nowadays Japanese economy is not only the largest in Asia, but among one of the largest in the world. This is not a result of miracle; it is a result of the people's dedication and innovations.

Today, Japan is the number one donor in development assistance to developing countries around the world. It is a common view that peace and prosperity can never be brought about by war, but rather by development and poverty eradication. I viewed myself as one among countless product of Japan's assistance. Thus I pledge to myself that I will dedicate my life to the development of Thailand and the developing nations around the globe.

### Publications

#### *ARTICLES (From Sept. 2004 to Nov. 2004)*

Concrete Library No.113: Recommendations for Design and Construction of Ultra High Strength Fiber Reinforced Concrete Structures-Draft (in Japanese), JSCE, September 2004, Pages 216, Price: JPY2,100-, [ISBN4-8106-0457-8](#)

Concrete Library No. 114: Damage Analysis of Concrete Structures due to the Earthquakes in 2003 Draft (in Japanese), JSCE, November 2004, Pages 267, Price: JPY3,570-, [ISBN4-8106-0456-X](#)

Koui FURUICHI and the Modern National Land Development in Japan Draft (in Japanese), JSCE, November 2004, Pages 526, Price: JPY4,200-, [ISBN4-8106-0466-7](#)

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