

A Greeting from the President

As president of JSCE, I am greatly pleased to be given this opportunity to share a few of my thoughts with the cosmopolitan readers of *International News*.

Those of us in the civil engineering profession in Japan find ourselves at a major turning point. The public has begun to cast a critical eye at the state of social overhead capital that has increased without pause over the last half-century following the end of the war.

With its sight focused on the 21st century, JSCE is committed to taking an initiative in finding solutions to such concerns. We are presently identifying which medium- and long-term directions to pursue and defining specific steps with respect to a range of issues. Our agenda includes the status of social-infrastructure improvements, ways to better utilize civil engineers, JSCE's own licensing program for civil engineers, reciprocity with overseas engineer certification programs, and compliance with various standards and criteria of ISO.


Now that the construction of massive infrastructure has nearly been completed, civil engineers in Japan are expected to proceed with the next generation of government-level engineering projects. A critical key to making any move in that direction is to begin with a trilateral approach that combines the business world, government circles, and the academic community. We should then move forward with the strategic development of advanced, world-class technologies while at the same time considering measures that will facilitate the introduction of such technologies.

JSCE has signed cooperation agreements with equivalent societies/institutions in 16 countries and has also established channels for disseminating information concerning civil engineering technologies in the international community.

A revolution in information technology is currently taking the world by storm. It is my earnest hope that civil engineers will also get ready for the impact of the IT wave when it even approaches the surface of each segment of the construction industry. The members of this

profession must possess an acumen to reap the benefits of the IT revolution and then apply them to more sophisticated, strategic technology development that I referred to earlier.

In closing, I would like to share with you a strong sense of responsibility and pride I feel as a civil engineer in moving civil engineering into the 21st century and beyond.

	<u>Personal History</u>
<i>Michio Suzuki, the President of JSCE</i>	Mar.1956: Graduated from the University of Tokyo Apr.1956: Joined the Ministry of Construction Jun.1989: Vice-Minister of Construction May.1991: President of Japan Highway Public Corporation Jul.1998: President of Highway Environment Research Institute

15th and 16th International Cooperation Agreements Signed

The Cooperation Agreement between the Institution of Engineers, Bangladesh (IEB) and JSCE was signed by Prof. Engr. M.A. Hannan, the president of IEB, on Feb.26, 2000 at Sylhet, where the annual Convention was held. This is the 15th agreement of JSCE with equivalent Societies or Institutions in other countries to cope with globalization in civil engineering. IEB was established in 1948 and just celebrated its 50th anniversary last year. IEB has around 16,000 members and publishes a monthly journal, “Engineering News”.



The Cooperation Agreement with IEB signed by Prof. Engr. M.A. Hannan (center)

The Cooperation Agreement between Vietnam Construction Association(VCA) and JSCE went into effect on Apr. 17, 2000. This made the 16th cooperation agreement for JSCE. Mr. Nguen Hong Quan, the chairman of VCA, signed the Agreement at Heritage Hanoi Hotel. VCA was set up on Oct. 23, 1982.

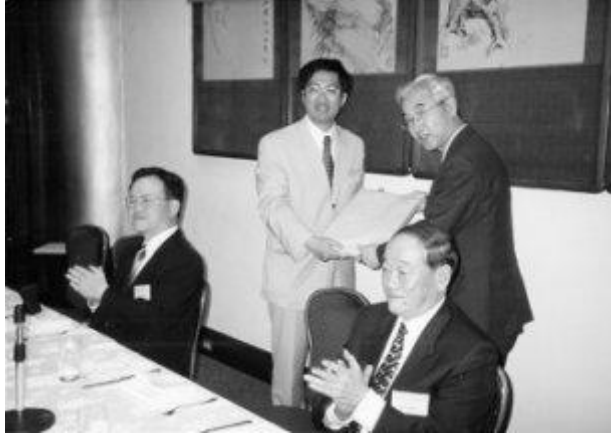


The Cooperation Agreement with VCA signed by Mr. Nguen Hong Quan (third from right)

VCA consists of around 300 collective members and 7,000 individual members. VCA journal, “The Builder”, is issued monthly.

JSCE's First and Second International Sections Founded in Taiwan and Korea

April 19, 2000 became a commemorable day for JSCE as the first international section was established in Taiwan as part of the internationalization strategy of JSCE. The newly-born section has 26 members. Dr. Okamura, the immediately past president of JSCE, and two members from International Activities Committee represented JSCE at this commemoration ceremony. Dr. J. C. Chern, professor at National Taiwan University, was elected as the first President of Taiwan Section.



Taiwan Section Foundation Meeting

*Prof. Okamura, the former president of JSCE,
and Dr. Chern(right to left, standing)*

Following Taiwan, Korea Section consisting of 100 members was set up in July 2000 with attendance of JSCE President Mr. Suzuki and two other delegates. Dr. H. J. Hwang, the president of Dasan Consultants Co., Ltd., was elected as the first President of Korea Section.



*Korea Section Foundation Meeting
Mr. Suzuki, the JSCE President, and
Dr. Hwang(left to right)*

JSCE Technical Committee News

-The Concrete Committee-

The Concrete Committee was inaugurated back in 1930 as the Board of Concrete Investigation. It has the second longest history in JSCE after the Editorial Committee of JSCE Journal set up in 1914. Since its birth the Concrete Committee has been primarily working on publishing the Standard Specifications for concrete technology, such as the Standard Specifications for Reinforced Concrete (1931), for Plain Concrete (1943), and for Design and Construction of Concrete Structures (1949). After 1949, the Standard Specifications for Design and Construction of Concrete Structures have been periodically revised (every 3 to 5 years) and updated with the enormous volunteer efforts by the committee members. Comprehensive revisions were also made on these Specifications especially on the version based on the limit states design (1986), and those based on durability performance in 1999. An English version for the limit states design was also published in 1986.

Besides publication of the Standard Specifications, a series of "Concrete Library" (since 1961) and "Concrete Engineering Series" (since 1992) covering various topics have also been published. These activities mainly rely on the volunteer work of the subcommittees. Current subcommittees are grouped into 3 categories as follows:

Category 1: Subcommittees that deal with activities contributing to the development of the society, public welfare, development of civil and concrete engineering. They are #100: Steering Committee, #101: Committee for Revision of the Standard Specifications, #107: Topical Committee on Cold Joint Problems, #108: Topical Committee on Guidelines for Concreting Works for Tunnels, and #109: Format-Making Committee for Durability Database. The two subcommittees #107 and #108 have almost completed their original tasks and are going to organize educational seminars in 2000.

Category 2: Subcommittees consist mainly of taskforces in charge of education and international affairs. They are #201: Education Committee, #203: Editorial Committee for the Journal of Concrete Library International, #204: Committee on International Seminars, #207: Committee on International Affairs, and #292: Task-force Committee on Concrete Structures with Externally-Bonded Continuous Fiber-Reinforcing Materials.

Category 3: Subcommittees that are made with purely voluntary efforts to support advancement of concrete technology and to conduct research on topical problems. These subcommittees receive only the minimal financial support from JSCE and the research assigned should be completed within two years.

The Concrete Committee is honored to have the opportunities to provide technical services, although our activities rely heavily on the efforts and devotion of the committee members. The future of the committee depends on our ability to provide the latest technological information to the public by various means. Accordingly, we have started an English homepage in the internet to timely offer information available from various sources to the public.

For more information, please visit the following website.

<http://www.infra.kochi-tech.ac.jp/shima/jsce/e/index.html>



Professor Taketo Uomoto,
Chair of the Concrete
Committee

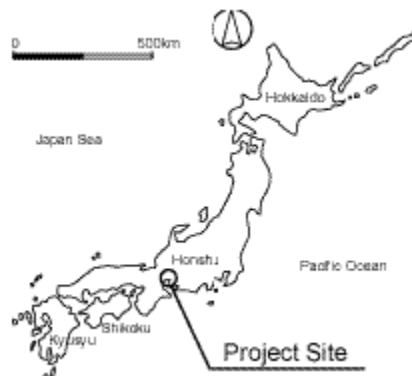
Personal History

Dr. Taketo Uomoto is a professor in the Center for Collaborative Research at the Univ. of Tokyo. He received his Doctor Degree of Engineering from the Univ. of Tokyo in 1981. He is currently a chairman of the fib Commission 8 "Concrete" and the International Committee on Concrete Model Code for Asia.

Very Large Extradosed PC-Steel Composite Girder Bridges Under Construction

— The Kiso River and Ibi River Bridges —

Japan Highway Public Corporation is constructing the Kiso River and the Ibi River Bridges as a part of the New Meishin Expressway that will connect Nagoya and Kobe. The 1,145m long Kiso River Bridge and the 1,379m long Ibi River Bridge are located approximately 1,300m apart, crossing the two major rivers near their mouths. The total width of both bridges is 33m, accommodating 6 traffic lanes. The center and the side spans are over 270m and 150m respectively for both bridges.



Project Location

The extradosed bridge type with prestressed concrete and steel composite girders was selected to cope with such long spans, taking economy, construction period and workability into consideration. An extradosed bridge looks similar to a cable-stayed bridge with a lower pylon, however, its structural behavior is close to that of a girder bridge. The adopted bridge type allows more balanced shares of loads between the stay cables and the girders.

To reduce the dead load, a steel girder is used for the central sections of the spans, while high compressive strength of concrete is fully taken advantage of by having the concrete girder sections.

Further reduction of the dead load is achieved by placing some of the tendons externally inside the box girder section, which makes thin webs possible.

The precast segment method is employed for the concrete sections of the girders. Each segment with weight of 3000 to 4000 kN is precast using high strength concrete of 60N/mm^2 by the short line match casting method at the fabrication yard located about 10 to 15 km away from the project sites. The segments for the main girders are transported to the sites by sea and placed into position by large temporary facilities, such as erection noses and erection trusses except the pier head tables, each of which was divided into three and installed by a 6000 kN floating crane. The steel girder sections, which weigh about 20 MN each, are being fabricated in a factory and will be transported to the sites and erected at one time by reaction girders attached to both ends of the concrete girders after completion of the concrete segments installation.

For the substructure, the steel pipe sheet pile foundation type was selected, taking the depth of the bearing layer and working time available during a single non-flood season into consideration. The construction of the substructure began in the fall of 1997.

Toward the completion in early 2001, the construction sites are now in their busiest season. The New Meishin Expressway is expected to serve as one of the major routes of the

transportation network in Japan together with the existing Tomei and Meishin Expressways. Therefore, the successful completion of these two bridges is the key to further social and economic development of Japan.

For more information, please visit the following owner's website.

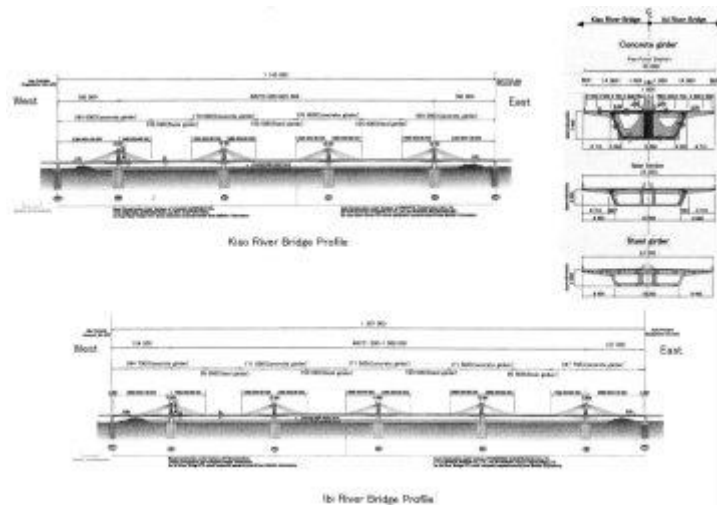
<http://www.jhri.japan-highway.go.jp/kiso-ibi>



The Kiso River Bridge Under Construction



Precast Concrete Girder Segmen



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JSCE Second International Summer Symposium Held on July 28, 2000

JSCE is extending its activities in the international areas in order to foster mutual understanding and cooperation between the international community and Japanese students/engineers. JSCE recognizes that the exchange of ideas among international students/engineers plays a crucial role in strengthening and reinforcing the core knowledge and technologies of civil engineering as a whole. In consideration of this, JSCE held the First International Summer Symposium last year in Tokyo.

The Second Summer Symposium was held at Tokyo Institute of Technology in Ookayama, Tokyo, on July 28, 2000. The Second Symposium gathered exactly 100 papers and the topics covered the following 7 areas: (1)Structural Engineering, (2)Earthquake Engineering, (3)Hydraulics, (4)Geotechnical Engineering, (5)Materials, (6)Urban Planning and Transportation, and (7)Environment.



Opening Session

This Symposium puts emphasis on providing opportunities to make network with each other as well as on the presentation of academic theses. The Second Symposium enjoyed participation of 105 international students/engineers and 48 Japanese members. Also, the following presenters were awarded the "Certificate of Excellence" for their excellent presentations.

Bimal Babu Adhikary (Saitama University), Tara Nidhi Bhattarai (Kyushu University), Sakda Chaiworawitkul (The University of Tokyo), Ashis Kumar Dey (Nagoya University), Dilum Dissanayake (Nagoya University), Dushmanta Dutta (The University of Tokyo), Mauliddya Indah Junica (Tokyo Metropolitan University), Manakan Lertsamattyyaku (Tokyo Institute of Technology), Ravichandra Nadarajah (The University of Tokyo), Takahiro Nishida (Tokyo Institute of Technology), D.G.Tilak Priyadarshana (Saitama University), HellySulistyawan Putro (Yokohama National University), Anat Ruangrassamee (Tokyo Institute of Technology), Jun-ichi Sakai (Tokyo Institute of Technology), Troung Hong Tien (Nagoya University), Xiaofeng Wu (Kokusai Kogyo Co., Ltd.), Wael A. Zatar(Saitama University), Mulan Zhu (Nikken Consultants,Inc.)

The Second Civil Engineering Conference in the Asian Region (2nd CECAR)

Scheduled in April, 2001

The 2nd CECAR will be held in April, 2001 in Tokyo, following the 1st CECAR, which was held in Manila in 1998 and co-sponsored by the Philippine Institute of Civil Engineers (PICE), the American Society of Civil Engineers (ASCE) and JSCE.

The 2nd CECAR will be organized by the Asian Civil Engineering Coordinating Council (ACECC) and aims to provide opportunities for the people leading the industries, governments and academia related to the civil engineering technology and the infrastructure development in the Asian region to exchange information and knowledge. The common goal for the Asian countries is the “Sustainable Development in the 21st Century”. To achieve this goal, the 2nd CECAR will focus upon the following seven main themes:

- Innovative Technology and R&D Collaborative Efforts
- Regional Framework (Codes, Education and Qualifications)
- Construction Management and Funding
- Urban & Regional Planning and Construction
- Environment and Disaster
- Energy and Water Resources
- Transportation and Urban Development Systems

The conference will be held at Hotel Metropolitan located in Ikebukuro, Tokyo for two days and a half from April 16 to 18, 2001. The program includes a keynote address, three special lectures and more than 50 invited lectures and discussions on the conference themes and topics. For further information, please visit the following website.

<http://www02.u-page.so-net.ne.jp/tg7/cecar/>

Information on International Graduate Program in Japan

Should you have a desire to pursue your graduate studies to achieve a further important step in your career, we would like to give you some hints about the International Graduate Program in Japan. The program offers advanced professional studies and training of modern technologies in Japan leading to the degrees of Master and Doctor of Engineering. The program includes the courses specially designed for international students and class instructions and supervision are offered in English. Graduation dissertations in English are accepted.

The program is supported by scholarships provided by the Ministry of Education, Science, Sports and Culture (Monbusho) of the Government of Japan and the Asian Development Bank (ADB). Currently, five universities and institutes are offering enrollment to the program. The designated universities and institutes are given in an alphabetical order as; Nagoya University, Saitama University, Tokyo Institute of Technology, University of Tokyo and

Yokohama National University. Students from different countries representing almost all continents have already enrolled in the program.

Application forms can be obtained through an international student office of each university. Since the program is highly competitive, screening and peer review of the application materials are to be done and final recommendations by the concerned departments are given on the basis of the applicant's academic qualifications. Should you desire to obtain further information about the program, please contact the following URL links.

- **Nagoya University:**
<http://www.civil.nagoya-u.ac.jp/special/>
e-mail: morikawa@civil.nagoya-u.ac.jp
- **Saitama University:**
<http://www.civil.saitama-u.ac.jp/fso/fso.html>
e-mail: fso@sun.civil.saitama-u.ac.jp
- **Tokyo Institute of Technology:**
<http://www.titech.ac.jp/admission.html>
e-mail: office@ryu.titech.ac.jp
- **University of Tokyo:**
<http://incede.ijs.u-tokyo.ac.jp/civil/>
<mailto:fso@civil.t.u-tokyo.ac.jp>
- **Yokohama National University:**
<http://www.cvg.ynu.ac.jp/>
e-mail: tomo@coast.cvg.ynu.ac.jp

Voice from an International Student

I came to Saitama University in 1997 for my doctoral study on a Japanese Government scholarship. Coming from a developing country to one of the advanced nations in the world for the highest academic degree was itself an exhilarating experience. At the same time, there was a challenge to conduct an independent research after spending more than six years in the field.

At Saitama University, my research was focussed on strengthening and retrofitting of existing reinforced concrete structures using externally bonded steel plates and FRP composites. I carried out a number of experiments and spent many sleepless nights working at numerical

modeling. The successful completion of my research would have never been possible without encouragement and constant guidance from my supervisor, other faculty members and support from fellow laboratory members. Further, excellent research facilities, such as a fully equipped experimental laboratory, advanced computing as well as readily available reference facilities are among the other factors, which helped me accomplish my goal smoothly.

I have many favorite memories of wonderful times I spent here and I must say that Japan is really a fascinating country. I am glad that besides my academic degree, I earned a lot of other things from Japan.



*Bimal Babu Adhikary,
Nepalese Doctoral Student,
Department of Civil & Environmental Engineering,
Saitama University, Urawa*

Book Review

Newly Published Books in English (Period from June 1999 to June 2000)

(1) Earthquake Resistant Design Codes in Japan, JSCE, January 2000, 171 Pages, Price: ¥2,835 (US\$38) ISBN 4-8106-0266-4

This book gives lessons learned from the “Hyogoken-Nanbu Earthquake”, comparing the original seismic design codes and the recommended ones. The design codes are applied to highway bridges, railway structures, port facilities, water supply facilities, and gas pipelines.

(2) Comparative Performances of Seismic Design Codes for Concrete Structures Vol.1& 2, JSCE, 389 Pages, Price ¥10,000 (US\$110) ISBN 0-08-043021-X

This book focuses on the comparison of the performance of the revised “Standard Specifications for Design and Construction of Concrete Structures ? 1991 Part 1 (Design)” of JSCE Concrete Committee Code with three existing major seismic Design codes in the world, i.e., USA CALTRANS Code, EURO Code 8, and NEW ZEALAND Code. The book contains 1) General Concept and Design Principles, 2) Earthquake Loading and Analysis, 3) Ductility Consideration for Single Element and for Frame Structures, 4) Design Method for Shear Failing Elements, 5) Detailing Consideration, and 6) Comparison of RC Pier Dimensions Designed by the Four Codes.

(3) Bridges ? Bridges of Tanaka Prize Winner, Kajima Publishing Co., Ltd., 175 Pages. Price: ¥7,875 ISBN 4-306-02333-8

This book aims to put together the achievement of bridge works and to introduce the various works of “Bridges of Japan”. The Tanaka Prize winning bridges of the last 30 years have been selected as reflection of studies carried out by bridge engineers. The book is in handy volume, properly explaining the well-known bridges and their related technologies with beautiful photographs.

Periodicals in ENGLISH

(4) Coastal Engineering Journal Vol. 41 No. 1-4, Vol. 42 No. 1-2, World Scientific Publishing Co., Ltd., Price US\$250 (each volume) ISSN 0578-5634

(5) Concrete Library International No 35 (Biannual), JSCE, June 2000, 207 Pages, Price ¥2,625 (US\$35) ISSN 0913-4913

(6) Journal of Hydrosience and Hydraulic Engineering Vol. 18 (Biannual), JSCE, 2000, 193 Pages, Price ¥3,150 (US\$41) ISSN 0912-2508

(7) Journal of Global Environment Engineering, Vol. 5 (Annual), JSCE, Oct. 1999, 154 Pages, Price ¥6,000 (US\$75) ISSN 1341-1268

(8) Structural Engineering / Earthquake Engineering, Vol. 17. No. 1 (Biannual), JSCE, April 2000, 135 Pages, Price ¥2,039 (US\$27) ISSN 1341-1268

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JSCE Website(English) : <http://www.jsce.or.jp/publication/e/book-e.html>

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