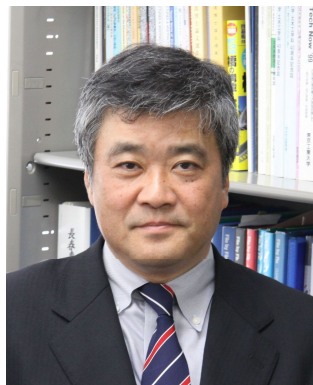


# JPCI NEWSLETTER

No.6, October 2013

**Japan Prestressed Concrete Institute**

## *Message from President*



*Junichiro Niwa, 31st President of Japan Prestressed Concrete Institute  
Professor at Graduate School of Science and Engineering, Tokyo Institute of Technology*

Japan Prestressed Concrete Institute (JPCI) made a fresh start as a public interest incorporated association in April 2012. JPCI is committed to contributing to the safety and development of society by fostering academic and technological progress in the field of prestressed concrete and concrete structures, improving the quality of its members, and promoting international information exchange.

In Japan there was until recently an argument that public works projects were no longer necessary because the country had already established enough infrastructure facilities. It is, however, clear that this argument is not realistic at all in consideration of the devastating damage wrought by the Great East Japan Earthquake and the numbers of casualties caused by concentrated heavy rains and typhoons that hit the country every year. It is also obvious that the high-density growth of large cities makes it difficult to create new infrastructures. On the other hand the aging and resulting degradation of existing infrastructure and lifeline facilities are causing serious problems, against which measures need to be implemented urgently. Now, in order to help solve these problems, JPCI must fulfill its role as a group of engineers specializing in prestressed concrete and concrete structures.

We at JPCI will proactively continue to foster a range of projects for the maintenance, management and appropriate improvement of infrastructure and lifeline facilities with

self-confidence and pride, as a group of experts in the field of prestressed concrete and concrete structures, thereby contributing to the creation and development of a safe society where people can live with ease of mind. To this end, I would like to ask for your continued support and cooperation.

## JPCI AWARD

### Award for Outstanding Structures



#### ● Sanagawa Bridge

Location : Aichi  
 Structural Type : 6-span continuous prestressed concrete box girder bridge  
 Bridge Length : (Up line) 636m, (Down line) 699m  
 Span : (Up line) 81.25+112.50+105.00+126.00+123.00+85.75m  
 (Down line) 76.75+2@128.00+2@142.00+79.75m  
 Width : 10.75m (effective width)  
 Design : Nagoya Branch, Central Nippon Expressway Company Limited  
 Kajima Corporation  
 Construction : Kajima Corporation

#### ● Main building of AIMR, Tohoku University

Location : Miyagi  
 Structural Type : PCaPc+RC+S  
 Number of Stories : 5 stories  
 Building use : University  
 Floor Space : 2599.84m<sup>2</sup>  
 Total floor space : 9269.70m<sup>2</sup>  
 Design : Tohoku University  
 Mitsubishi Jisho Sekkei Inc.  
 Construction : Toda Corporation



#### ● Japanese Consumers' Co-operative Union Onomichi Refrigerated Warehouse

Location : Hiroshima  
 Structural Type : RC (Pre-stressed Flat beam & Flat plate)  
 Pedestrian bridge separately  
 Number of Stories : 2 stories  
 Building use : Refrigerated Warehouse  
 Floor Space : 9,211.54m<sup>2</sup>  
 Total floor space : 18,062.88m<sup>2</sup>  
 Design : Nikken sekkei LTD.  
 Construction : Kumagai Gumi Co., Ltd.

● **Tagajyo daiichi Bridge**

Location : Miyagi  
 Structural Type : 2 span box and t-shape girder bridge  
 Bridge Length : 81.0m  
 Span : 2@39.8m  
 Width : 10.3m  
 Design : Yachiyo Engineering Co., Ltd.  
 Construction : Obayashi Corporation Toda Corporation JV



**Award for Outstanding Engineering Innovations**



● **Seismic strengthening of historical brick masonry building by post-tension**

Location : Tokyo  
 Structural Type : Brick masonry bearing wall  
 (Constructed in 1915)  
 Number of Stories : 2 stories+1 basement  
 Building use : Academic (School)  
 Floor Space : 893.13m<sup>2</sup>  
 Total floor space : 1794m<sup>2</sup>  
 Strengthening system : Unbonded post-tensioning  
 Design (strengthening) : Mitsubishi Jisho Sekkei Inc.  
 Construction (strengthening) : Takenaka Corporation

● **New PC floating body structure using the cylinder floating body and truss material**

Location : Fukuoka  
 Structural Type : The hexagon float of concrete  
 Diagonal-line Length : 18.0m  
 Height : 4.0m  
 Design : Japan Port Consultants, Ltd.  
 Construction : Fuji P.S Corporation



● **Development of the response control system with The Core Column**

Outline of the development : The response control system using The Core Column, prestressed concrete structure, as the added mass has been developed.

Related structure : TOKYO SKYTREE  
 Location : Tokyo  
 Classification of structure : Steel structure  
 Structural Type : Steel pipe truss structure with The Core Column  
 Height : 634.0m above the ground  
 Building use : communications tower, store, office  
 The Core Column : Prestressed concrete structure 376.9m above the ground (383.2m above the base) 8m in diameter, 400~600mm in thickness, Fc54  
 Design : Nikken Sekkei Ltd.  
 Construction : Obayashi Corporation



● **Hamana Bridge Repair Construction**

Location : Shizuoka  
 Structural Type : 5-span continuous box girder bridge  
 Bridge Length : 630m  
 Span : 55.0m+140.0m+240.0m+140.0m+55.0m  
 Width : 9.0m  
 Design : IDEA Consultants,Inc., Oriental Shiraishi Corporation  
 Construction : Oriental Shiraishi Corporation



**Award for Outstanding Accomplishments Structures**



● **Hanoi City Ring Road No.3 Construction Project Package2**

Location : Hanoi, Vietnam  
 Structural Type : 3-5 span Super-T Girder Bridge  
 Bridge Length : Throughway 2070m, Ramp 447.6m  
 Span : 30.0m-44.8m  
 Width : Throughway (1 Side) 10.75m, Ramp 7.0m  
 Design : Oriental Consultants, Katahira & Engineers International, other 3 companies  
 Construction : Sumitomo Mitsui Construction Co.,Ltd.

● **Imamura-shinden Bridge**

Location : Niigata  
 Structural Type : 4-span continuous box girder bridge×5  
 5-span continuous box girder bridge×5  
 Bridge Length : 1588.0m  
 Span : 2@35m+3@32m, 2@32m+3@37m, 2@32m+2@37m, 35m+3@37m, 4@37m, 3@37m+2@35m, 3@35m+37m, 3@37m+35m, 5@35m, 5@35m  
 Width : 11.7m~11.8m  
 Design : Yachiyo Engineering  
 Construction : P.S.Mitsubishi, Wakachiku Construction JV



● **Sagami traversing SagamiharaAikawa interchange F lamp**

Location : Kanagawa  
 Structural Type : Retaining wall (Prestressed Concrete Walls)  
 □700×700×Pile length (13~15m)  
 Construction length : 81.7m  
 Design : Katahira & Engineers Inc.  
 Construction : Oriental Shiraishi Corporation

## WHAT'S NEW

### ***The 4th Joint Workshop between JPCI and ITST September 17 – 18, 2013 Hanoi, Vietnam***

In order to further enhance and strengthen their collaboration, the Japan Prestressed Concrete Institute (JPCI) and the Institute of Transport Science and Technology, Vietnam (ITST) have organized the 4th Technical Workshop titled “Maintenance of Prestressed Concrete Bridges” on September 17 and 18, 2013 in Hanoi, Vietnam. The Workshop was held at the Headquarter of ITST, and was attended by more than 100 participants. Leading experts in the fields of Prestressed Concrete Bridge, Maintenance and Construction Materials from Japan and Vietnam participated in the Workshop.

Ten presentations were given in the Workshop, five were presented by Vietnamese experts and the rest five were presented by Japanese experts. Topics of the presentations reflected the attendees’ interest and demonstrated the latest technologies and materials on maintenance of prestressed concrete bridges.

A meeting was held after the conclusion of the Workshop to discuss topics of mutual interest to JPCI and ITST. The both Institutions agreed to hold the 5th Workshop in Hanoi, Vietnam, in 2015. However, topic of the next workshop was not decided yet. It was suggested that the both Institutions participate in Japan International Cooperation Agency’s (JICA) activities. Both subjects must be continued to discuss in two years.



*Workshop at ITST*



*Meeting after the Workshop*

## EVENTS

### ***Annual Symposium - Coming symposium -***

*22nd Symposium on Developments in Prestressed Concrete*

October 24th – 25th, 2013

Shizuoka, Japan

<http://www.jpcea.or.jp/>

A session is planned for the first time in the symposium history, in which outstanding researchers and practitioners invited from overseas to give an address on state-of-the-art technology in the field of their specialties. Mr. James G. Toscas, President, Precast/Prestressed Concrete Institute, U.S.A., Assoc. Prof. Nguyen Xuan Khang, Dr. Eng., Director General, Institute of Transport Science and Technology, Ministry of Transport, Vietnam and Prof. Jiri Strasky, Technical Director of Strasky, Husty and Partners, Brno University of Technology, Czech Republic will make presentation in the international session.

### ***- The last symposium -***

The last symposium, “21st Symposium on Developments in Prestressed Concrete”, was held on 25 and 26, October, 2012 at the Otsu Prince Hotel in Shiga prefecture. Otsu-city faces the Lake Biwa, the largest lake in Japan.

Previous to the symposium, the Workshop was held. Activities of the JPCI committees were reported, and regional information was presented.

In the Opening Ceremony Dr. Minehiro Nishiyama, professor of the Kyoto University, the



*Venue, Otsu Prince Hotel*



*Opening ceremony*



chairman of the Executive Committee, gave opening address. History and outline of the symposium were introduced, and Dr. Toyooki Miyagawa, professor of the Kyoto University, the president of the JPCI gave an opening speech. Then, Mr. Hiroshi Ohnishi of Kinki Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism gave a speech of greeting.

Dr. Toru Shinohara, a folklorist, the director of the Lake Biwa Museum and Dr. Masata Sugito, the Vice-President of Gifu University were invited and gave special lectures.

Dr. Toru Shinohara presented “Civilization Related to Nature and Technology”. He introduced agriculture and fishery in Konso in Africa, Yunnan in China and the Lake Biwa, and then he presented relationships between nature and engineering. He hopes that concrete not destroy but create nature.

Dr. Masata Sugito presented “Gigantic Scenario Earthquake”. He introduced important data, which is useful to predict great earthquake, obtained in the Great East Japan Earthquake. He showed simulative results of the Tokai, Tonankai and Nankai Consolidated Type Earthquake.

Activities of Organizations and companies, researches of universities and colleges in the Shiga region were displayed at the Technical Exhibition. 43 groups participated in the exhibition. This is the largest number ever. Booths were arranged for the exhibition, and presentations and discussions for each exhibition were made in the presentation space provided in the exhibition hall.

In the last symposium, 133 contributed papers were presented in 16 sessions, and the participants were 573. From each session, the most excellent presenters were chosen and were given an “Award of Excellent Presentation”. Prize winners are as follows.

Session 1: *Kenichi Nakatsumi*, Sumitomo Mitsui Construction Co., Ltd

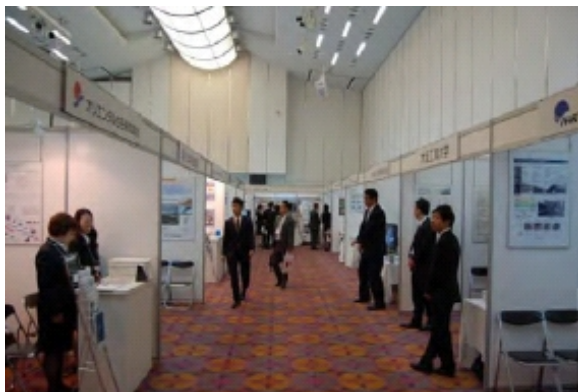
Session 2: *Naoshi Ueda*, Nagoya University

Session 3: *Kazunobu Kumamoto*, Nagasaki University

Session 4: *Hyeongjae Yoon*, Kyoto University

Session 5: *Taketoshi Mizuta*, Sumitomo Mitsui Construction Co., Ltd

Session 6: *Ryo Yamashita*, IHI Construction Service Co., Ltd



*Technical exhibition*



*Parallel session*

Session 7: *Maki Kouda*, P.S. Mitsubishi Construction Co., Ltd

Session 8: *Kazuhiro Kozu*, University of Yamanashi

Session 9: *Ryousuke Yoshitake*, Tekken Corp.

Session 10: *Taku Yoshikawa*, Ministry of Land, Infrastructure, Transport and Tourism

Session 11: *Tomoshige Kamotani*, P.S. Mitsubishi Construction Co., Ltd

Session 12: *Toshiyuki Nakamura*, Oriental Shiraishi Corp.

Session 13: *Kenichi Tochigi*, Shimizu Corp.

Session 14: *Akira Miyajima*, Abe Nikko Kogyo Co., Ltd.

Session 15: *Kimihiko Amaya*, Nippon P.S Co., Ltd.

Session 16: *Minoru Nishisu*, Oriental Shiraishi Corp.



*Parallel session*



*Award of excellent presentation*



- This newsletter contents current information on the activities and topics of JPCI.
  
- If you have any comments and suggestions, please contact us by sending e-mail to: [kaiinka24@jpci.or.jp](mailto:kaiinka24@jpci.or.jp)

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