# JPCI NEWSLETTER

No.5, September 2012

**Japan Prestressed Concrete Institute**

## *The New Start*

Japan Prestressed Concrete Engineering Association was approved as a public interest incorporated association by the Prime Minister on March 21, 2012. Responding to approval, the official name of the organization was changed to "Japan Prestressed Concrete Institute" on April 1, 2012.

The new logo mark of the JPCI, as shown below, was chosen out of 97 applied designs by a competition. The gray background represents concrete and the white curved line symbolizes a prestressing tendon. The red color letter "C" means firm resolution to keep up prestressed concrete as a social infrastructural technology which supports Japan and urban life.

*The new logo mark of Japan Prestressed Concrete Institute*

## *JPCEA AWARD*

Annual general meeting was held on 16 May 2012, and this year's JPCEA AWARDS were presented. Prize winners are as follows.

### *Uratakao Bridge*

Location: *Tokyo*
Structural Type: *4-span continuous prestressed concrete/steel box girder bridge*
Bridge Length: *(Up line) 405.5m, (Down line) 438.0m*
Span: *(Up line) 51.5m+140.5m+140.0m+69.5m,*
*(Down line) 67.0m+155.0m+144.0m+68.0m*
Width: *(Up line) 9.75m～17.723m, (Down line) 9.75m～21.055m*
Design: *Central Nippon Expressway Company, Chodai, Idea Consultants,*
*Japan Bridge & Structure Institute, Kajima Hazama JV, Miyaji Engineering*
Construction: *Kajima, Hazama JV, Miyaji Engineering*

***The new fifth building in NTT East training facilities***

Location: *Tokyo*
Structural Type: *Precast prestressed concrete*
Number of Stories: *6 stories*
Building use: *Training facility*
Floor Space: *1613.34m$^2$*
Total floor space: *9532.30m$^2$*
Design: *NTT Facilities*
Construction: *Toda Corporation*

***Ikina Bridge***

Location: *Ehime*
Structural Type: *3-span composite cable-stayed bridge*
Bridge Length: *515.0 m*
Span: *98.0 m + 315.0 m + 98.0 m*
Width: *7.5 m*
Design: *Chodai Co., Ltd.*
Construction: *Sumitomo Mitsui Construction, Showa Concrete Industry, Yokogawa Bridge JV*

### *The Dubai Metro viaducts*

Location: *Dubai, United Arab Emirates*
Structural Type: *Single girder bridge, 2 continuous span girder bridge, 3 continuous span girder bridge*
Bridge Length: *Viaducts total length 61km*
Span: *Single and 2 span 22m~44m, 3span 44m+72m+44m*
Width: *10.5m, Standard section*
Design and Construction: *Obayashi, Kajima, Yapi Merkezi JV*

### *Hirono Bridge*

Location: *Kyoto*
Structural Type: *Single-span composite truss bridge*
Bridge Length: *111.0m*
Span: *107.5m*
Width: *8.2m(total width)*
Design: *Japan Bridge & Structure Institute Inc.*
Construction: *Sumitomo Mitsui Construction Co., Ltd.*

***Tokyo No.5 Data Center***

Location: *Tokyo*
Structural Type: *PCaPC*
Number of Stories: *16 stories*
Building use: *Office (server room)*
Floor Space: *975.56m$^2$*
Total floor space: *13227.09m$^2$*
Design: *NTT Facilities Design*
Construction: *Obayashi Corporation*

# R&D Award

## *PC Structure made of Ultra high strength Fiber reinforced Concrete Cured at Normal Temperature*

Location: *Kiyose-shi, Tokyo*
Structural Type: *Simple Beam*
Bridge Length: *14.045m*
Span: *13.925m*
Width: *1.700m*
Number: *2*
Construction: *Obayashi Corporation*
Structural Type of Building: *Steel (CFT)*
Building use: *Research Institute (Office)*
Floor Space: *3,371m*$^2$
Total floor space: *5,535m*$^2$
Number of Stories of Building: *3 Stories above Ground*
Design: *Obayashi Corporation*

## *Post-tensioned T-Girder Bridge using Corrugated Steel Web*

Location: *Tokyo*
Structural Type: *Post-tensioned T-Girder Bridge using Corrugated Steel Web*
Bridge Length: *39.700m*, Span: *38.700m*, Width: *6.00m, 3.00m*
Design: *Chuoh Consultants*
Construction: *P.S.Mitsubishi Construction*

# Construction Technology Awards

## *Aoyama Area Viaduct*

Location: *Osaka*
*Structural Type:* 20spans prestressed concrete viaduct
Bridge Length: *812m*
Span: *38.0 + 5@40.0 + 44.5 + 2@40.0 + 10@41.0 + 38.5m*
Width: *13.78m ×2*
Design and Construction: *Sumitomo Mitsui Construction*

## *Renewal of Mukaizano Bridge*

Location: *Fukuoka*
Structural Type: *Single span RC hollow slab bridge, 4-span continuous steel plate girder bridge, 2-span continuous RC hollow slab bridge*
Bridge Length: *210.05m*
Span: *18.350m, 37.500+2@38.000+38.500m, 18.470+18.650m*
Width: *32.000m*
Design and Construction: *Oriental Shiraishi Corporation*

***Replacing of Precast Slab on Miyuki Bridge of Nishi-Meihan Expressway considering of rapidity***

Location: *Nara*
Structural Type: *Continues plate girder with precast slab*
Bridge Length: *332.91m (up line), 321.60m (down line)*
Span: *37.21+48.59+2@49.00+3@49.09m (up line),*
*25.20+3@49.00+3@49.00m (down line)*
Working length: *36.60m (1st Phase [up line]), 25.60m (2nd Phase [down line]),*
*42.50m (3rd Phase [up line])*
Working time: *10 nights (1st Phase), 5 nights (2nd Phase), 5 nights (3rd Phase)*
Width: *9.900m (up line), 9,945m (down line)*
Design: *YCE Corp.(1st Phase), Kawada Industries, Inc. (2nd Phase),*
*Yokogawa Construction Co., Ltd (3rd Phase)*
Construction: *Yokogawa Construction Co., Ltd(1st and 3rd Phase),*
*Kawada Industries, Inc.(2nd Phase)*

***Matoba Viaduct***

Location: Shizuoaka
Structural Type: (Up line) 9-spans continuous PC box girder bridge
(Down line) 7-spans continuous PC box girder bridge
(D lamp) 4-spans continuous PC box girder bridge
Bridge Length: (Up line) 403.5m
(Down line) 364.0m
(D lamp) 234.0m
Span: (Up line) 27.9m+7@48.0m+37.4m
(Down line) 55.4m+2@60.0m+44.5m+48.0m+48.5m+45.4m
(D lamp) 48.9m+3@46.0m+44.9m
Width: (Up line) 11.625m
(Down line) 11.625m
(D lamp) 8.500m
Design: Central Nippon Expressway Company, Sumitomo Mitsui Construction
Construction: Sumitomo Mitsui Construction

WHAT'S NEW

## *The 3rd Joint Workshop between JPCI and ITST*
## *September 21st – 22nd, 2011*
## *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 3rd Technical Workshop titled "Recent Technology of Prestressed Concrete Bridges" on September 21 and 22, 2011 in Hanoi, Vietnam. Cable-stayed Bridge was featured on the 3rd Workshop. 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 and Cable-Stayed Bridge from Japan and Vietnam participated in the Workshop.

Eight presentations were given in the Workshop, two of which were presented by Vietnamese experts and six were given by Japanese experts. Topics of the presentations reflected the attendees' interest and demonstrated advanced technologies on design, construction, monitoring, maintenance, operation, wind resistance and seismic design of Cable-Stayed Bridge.

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 4th Workshop in Hanoi, Vietnam, in 2013. Furthermore, the both Institutions accepted signing agreement on technical exchange between JPCI and ITST.


*Workshop at ITST*


*Meeting after the Workshop*

EVENTS

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

*21st Symposium on Developments in Prestressed Concrete*

October 25th – 26th, 2012

Otsu, Shiga, Japan
http://www.jpcea.or.jp/

## *- The last symposium -*

The last symposium, "20th Symposium on Developments in Prestressed Concrete", was held on 13-14, October, 2011 at Hakodate Kokusai Hotel in Hokkaido prefecture. Hakodate is a historic city. Hakodate port was opened in the latter part of the Edo Period, in order to trade with the United States of America. Also, Hakodate port played as a front entrance for settlers since Meiji Period.

Previous to the symposium, the Workshop was held. Activities of the JPCI committees were reported, and present situations in Hokkaido concerning civil and industrial heritages, bridge management and construction of the Hokkaido Shinkansen were presented.

In the Opening Ceremony Dr. Minehiro Nishiyama, professor of the Kyoto University, the chairman of the Executive Committee, gave thanks to cooperative parties and attendants. Dr. Toyoaki Miyagawa, professor of the Kyoto University, the president of the JPCI gave a speech, and certificate systems, researches and developments of JPCI were introduced.

Then, Mr. Toshihiko Takahashi of Hokkaido Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism gave a speech of greeting. Distinctive prestressed concrete structures constructed in Hokkaido up to now were introduced. He expects the

*Venue, Hakodate Kokusai Hotel*

*Opening ceremony*

progress of prestressed concrete technologies which can reduce construction cost and period.

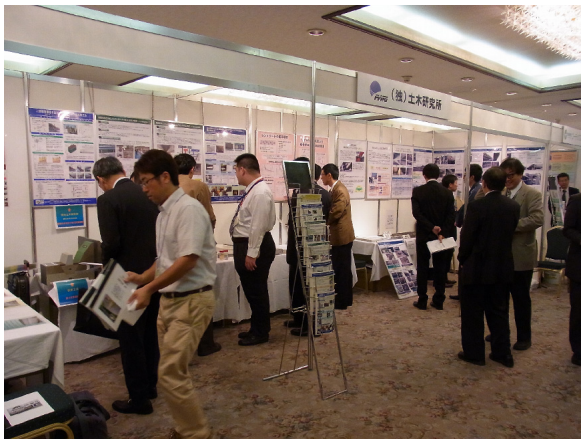
Mr. Akira Nagano, the president of the All Japan Fishing Port Construction Association and Dr. Masahiko Isobe, Professor of the Graduate School of Frontier and Sciences, the University of Tokyo were invited and gave special lectures.

Mr. Akira Nagano presented “regional promotion and post East-Japan great earthquake rehabilitation assuming the marine products industry as a core”. Before rehabilitation and reopening of the fishing industries, various arguments are surging up. Government wants to put fishing ports and industries together. However it seems that intensive fishing industries are not suitable for Sanriku Coast in Miyagi and Iwate prefectures. These arguments are obstacles for the rapid rehabilitation and reopening. For Hakodate, the situation is different from Sanriku Coast area. Hakodate can be a marine city by cooperation of marine products industries and the tourist industry. His current interest is utilization of information technologies. Products of fishing industry are can be controlled sufficiently by IT in the distribution systems.

Dr. Masahiko Isobe presented “the Earthquake and Tsunami in Tohoku region Pacific Ocean off-shore, and the direction of restorations and rehabilitations”. He emphasizes that occurrence and propagation mechanisms have to be analyzed and investigated. Most of existing breakwaters and tide embankments could not prevent flood but they could reduce damage. Damage also should be inspected and verified carefully before countermeasures are put into effect. Preparations are needed in hardware and software aspects taking this time damage as instruction for the future earthquakes.

Activities of Organizations and companies, researches of universities and colleges in the Hokkaido region were displayed at the Technical Exhibition. 28 groups participated in the exhibition. 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, 136 contributed papers were presented in 15 sessions, and the participants were 508. From each session, the most excellent presenters were chosen and were given an “Award of Excellent Presentation”. Prize winners are as follows.



*Technical exhibition*

*Parallel session*

Session 1: *Tomoshige Kamotani*, P.S. Mitsubishi Construction Co., Ltd.
Session 2: *Jyun Shida*, Sumitomo Mitsui Construction Co., Ltd.
Session 3: *Masanori Tani*, Bulding Research Institute
Session 4: *Kengo Hara*, Oriental Shiraishi Corporation
Session 5: *Yoshinori Sato*, Japan Railway Construction, Transport and Technology Agency.
Session 6: *Hikaru Okuma*, Taisei Corporation
Session 7: *Atsushi Nakamura*, Sumitomo Mitsui Construction Co., Ltd.
Session 8: *Kentaro Iwashita*, Meijo University
Session 9: *Yasuto Watanabe*, Eight-Japan Engineering Consultants Inc.
Session 10: *Tomoki Ito*, Abe Nikko Kogyo Co., Ltd.
Session 11: *Toru Izumi*, Nagasaki University.
Session 12: *Katsuhiro Ueno*, NEXCO Engineering Niigata Co., Ltd.
Session 13: *Kastuya Kono*, Taiheiyo Cement Corporation
Session 14: *Minoru Nishisu*, Oriental Shiraishi Corporation
Session 15: *Masaharu Kuwano*, Sumitomo Mitsui Construction Co., Ltd.

*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*

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