



# Advances in Bridge Engineering-II

With special attention to bearings, expansion joints, base isolation system and shock transmission units

## VENUE

RHD Auditorium, Roads and Highways Department  
Sarak Bhaban, Ramna, Dhaka 1000, Bangladesh

**8 - 10 August 2010**  
**Dhaka, Bangladesh**

Organized by  
International Association for Bridge and Structural Engineering  
Japan Society of Civil Engineers, Committee of Steel Structures

In association with  
Roads and Highways Department, Bangladesh Government  
Institution of Engineers, Bangladesh

Co-organizers  
American Society of Civil Engineers Bangladesh International Section  
Institution of Civil Engineers, United Kingdom Center Bangladesh

Sponsors  
Bangladesh Association of Consulting Engineers  
Bangladesh Association of Construction Industry

[www.iabse-bd.org](http://www.iabse-bd.org)

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## Background

The flood plains of the Ganges, the Brahmaputra, and the Meghna cover approximately 40% of the total geopolitical area of Bangladesh. The Ganges builds up, by far the largest area of this Indo-Bangla delta. The Ganges, the Brahmaputra-Jamuna, the Surma-Meghna and the Padma and their numerous tributaries and distributaries are the arteries of the drainage system for the country. In such a geological formation, the construction and maintenance an uninterrupted road-rail network across the country posed to be the biggest challenge for the civil engineers, even more for the bridge engineers. Soon after independence of this land from British India in 1947 and emergence of Bangladesh from Pakistan in 1971, the engineers passed through various phases of transfer of technology and authority in designing, constructing and maintaining numerous medium and short span bridges of Bangladesh in the continual change of techno-economic scenarios. The construction of the country's longest bridge (4.8 km) of the country over the mighty Jamuna was abandoned as the feasibility study by JICA in 1976 judged the project to be nonviable both technically and economically. The advancement of Bangladesh economy and the world knowledge on bridge engineering made it feasible subsequently when the Bongobondhu Jamuna Multipurpose Bridge was constructed and finally opened to road and rail traffic on 23rd June 1998. Now, Bangladesh is going to start construction of even a longer bridge over the Padma and also to have her first cable-stayed bridge over the Karnaphuly very soon. To alleviate the traffic congestion of Dhaka and Chittagong Cities, the design and construction proposals of a number of flyovers and underpasses are now at the design desk. Our engineers are quite ambitious to complete these works during next five years. Once completed, the bridge network will be important not only for the economy of Bangladesh but also for the region. We hope this will remove the technological hindrance of crossing the Himalaya to access east and the west of Asia and open further surface corridor towards the Europe.



## Organization and Objectives



The Committee of Steel Structures, Japan Society of Civil Engineers (JSCE) organized the first seminar on the Advances in Bridge Engineering jointly with the Civil Engineering Division, IEB, Roads and Highways Department and the Jamuna Multipurpose Bridge Authority, Government of the Peoples' Republic of Bangladesh on 10 August 2005. Special emphasis was given on steel-composite construction. Again these major stakeholders,

now also with the International Association for Bridge and Structural Engineering have joined together to make further effort to hold the second conference in the series on 8-10 August 2010 in Dhaka, Bangladesh. This time, emphasis will be given on the maintenance, repair and rehabilitation of bridges, putting particular emphasis on the bearings, expansion joints, base isolation system and shock transmission units. There exists a need to update the knowledgebase of the academicians, designers and construction industry of the country in the field of bridge engineering by exchanging ideas and sharing of their experiences. The conference is expected to initiate the transfer of sustainable technologies regarding economic design, construction, use and maintenance of bridges in Bangladesh and in the region. The experts from Japan, Europe and the neighboring countries are expected to provide in-depth deliberations on bridge forms, architecture, aerodynamic design, vibration and serviceability requirements. In order to enhance regional cooperation, the conference aims to generate further discussions on the necessity and format of a unified Bridge Code for the Asian countries. We welcome your valuable contribution to the events of the conference either as a presenting author or discussion participants. We hope to construct an ever lasting bridge of friendship between the participating national and international professional bodies through mutual cooperation and understanding.

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## Scope

### History and Planning

Historic bridges

Architecture and aesthetics

Geometric design of bridge, approach roads and viaducts



### Materials and Construction

Materials

Codes on bridge engineering

Methods for analysis

Composite bridges

Construction sequence, phases, technology



### Design for Dynamic Forces

Protection from earthquake

Base Isolation Technique

Bearings and expansion joints

Bridge dynamics, vibration control, aerodynamics

Design of shock transmission units



### Geo-environmental Issues

Geotechnical aspects

River training works

Bridge hydraulics

Environmental issues



### Administration, Maintenance and Monitoring

Bridge Administration

Bridge health monitoring

Instrumentation and field observations

Serviceability issues

Repair, maintenance and retrofitting of bridge elements

Repair and replacement of bearings and expansion joints



## Dates

### Technical Sessions

|                |  |
|----------------|--|
| 8 August 2010  | Reception for the delegates and the authors                      |
| 9 August 2010  | Opening ceremony, Technical session I & II and conference dinner |
| 10 August 2010 | Technical Session III, IV, V & Closing Ceremony                  |

### Field Trips\*

|                |   |
|----------------|---|
| 11 August 2010 | Visit to Chittagong, Karnaphuli Bridge site and stay a night at Cox's Bazar |
| 12 August 2010 | Departure for Dhaka from Cox's Bazar  |

\* 10 participants minimum

## Guidelines for preparation of abstract and paper

1. The language of the Conference shall be English.
2. Participants wishing to present a contribution shall submit an abstract related to the conference themes by the deadline. The abstract shall be typed in English within 500 words.
3. Abstract should clearly state the purpose, results and conclusions of the work to be described in the final paper. Final acceptance will be based on the full-length paper, with the understanding that the paper will be presented at the conference.
4. Authors will be notified of the decision of their abstracts and full length papers as per schedule indicated.
5. Full length papers should be typed on A4 paper using MS Word'97 or higher version in accordance with the template IABSE-JSCE.dot and the detail instructions written therein.
6. The text should be divided into major sections and the References shall be placed at the last but cited in accordance with the guidelines narrated in IABSE-JSCE.dot downloadable from <http://iabse-bd.org/author.php>
7. Duration of oral presentation will be 15-20 minutes.
8. Only Multimedia Projection System will be available in oral presentation sessions.
9. The editable version of the soft copy of the abstract and the paper shall be uploaded at the conference web site by duly registering at the site at <http://iabse-bd.org>.

## Submission, acceptance and publication

The authors are requested to submit the abstracts and full papers to the Conference Secretariat via Online within the stipulated deadline. The authors and participants must register to the conference secretariat online before initiating the submission process. The abstracts and papers received by the Secretariat via online will be reviewed by a Committee or identified experts to judge its suitability for publication in the proceedings and/or in oral presentation. In this context, the relevance of the paper to the conference theme, write-up quality and originality of the work will be given due consideration.

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## Registration

It is essential to register if you are either presenting or participating in the conference.

### Registration Fees

Bangladesh and SAARC countries

BDT 1500

Foreign participants

BDT 3000

Participation in the field trip (optional)

BDT 10000

\*1 BDT = 0.0153 CHF, 0.0104 Euro, 1.3107 JPY, 0.0145 USD (approx.)

The fee covers participation in all events of the conference, food, refreshment and a copy of the proceedings but excludes the cost of accommodation. The distinguished authors and the participants are advised to pre-register online for the conference by submitting the duly filled registration form and collect a printout of the receipt. The participants interested to join the Field Trip are requested to inform the Conference Secretariat as soon as possible but before 30 June 2010. Please follow the subsequent web instructions for further information about Registration.

## Field trip & excursions



Just after the conference, a 2-day long field trip is planned to be organized for the participants who are interested to get introduced about the recent engineering projects, construction industry and the natural beauty of Bangladesh. The trip will include a visit to Chittagong, Karnaphuli Bridge site: The first cable stayed bridge of Bangladesh and arrival at Cox's Bazar the site for the world's longest sea beach in the evening. Cox's Bazar sea beach was a nominee for recent contest of Seven Natural Wonders of the World. We plan to stay a night there.

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## Accommodation

A number of fine hotels are available in Dhaka. Dhaka Sheraton is only few hundred meters away from the venue. Hotel Razmoni Isha Kha, a budget hotel also lies within a km of the venue. Hotel Pan Pacific Sonargaon and Best Western La Vinci Hotel, Dhaka is within 2 km from the venue. Hotel Westin, Hotel Radisson Water Garden are some of the other finest hotels in Dhaka, ready to accommodate the guests. We have already negotiated with the following hotels to have a very special discounted rate of up to 65% for the participants of the conference. When you are booking with the following hotels please mention the title IABSE - JSCE Joint Conference on Advances in Bridge Engineering-II.

### Dhaka Sheraton Hotel \*\*\*\*\*

Deluxe Room (Single Occupancy) USD 130- USD 150

Deluxe Room (Twin/ Double Occupancy) Room USD 153- USD 173

This offer also includes Complimentary one buffet breakfast per room per night at Bithika Restaurant and a welcome fruit basket on arrival. Airport Transport Charges: by hotel shuttle bus US\$14 net per person per way and by hotel limousine US\$28 net per person per way. Rates are inclusive of all taxes. Contact for Reservation: [reservations@sheraton-dhaka.com](mailto:reservations@sheraton-dhaka.com), [nazrul.islam@sheraton-dhaka.com](mailto:nazrul.islam@sheraton-dhaka.com)

### Pan Pacific Sonargaon, Dhaka \*\*\*\*\*

Deluxe Room (Single/Twin) USD 136

Premier Room (Single Occupancy) USD 167

Pacific Deluxe Room (Single Occupancy) USD 226

Executive Suite USD 381

Breakfast charges will be USD 20 extra for per person per night for the deluxe room. The room charges for Premier Room, Pacific Room and Executive Suite include a breakfast for a single person. Free access to the internet available in all rooms. Rates are inclusive of all taxes. Contact for Reservation: [kahamed@panpacific.com](mailto:kahamed@panpacific.com)

### Best Western La Vinci Hotel \*\*\*

Executive Deluxe Room (One Large bed Single occupancy) USD 71

Executive Deluxe Room (Two Separate Bed Sharing occupancy) USD 86

La Vinci Suite (One Large Bed Single occupancy) USD 96

Extra Bed/person USD 19

Complimentary services with the rooms include full breakfast, welcome drinks on arrival, airport pick up service and free access to internet in room. Rates are inclusive of all taxes. Contact for Reservation: [reservation@lavincihotel.com](mailto:reservation@lavincihotel.com)

### Hotel Razmoni Isha Kha \*\*

Single Room USD 31

Double Room USD 44

Rates are inclusive of all taxes and also include a complementary breakfast. Contact for Reservation: [razmoni@bdcom.com](mailto:razmoni@bdcom.com)

To obtain information about room rates and bookings, the delegates, authors and participants may contact the hotel directly via their respective web sites or travel agencies. In addition, many budget guest houses within the vicinity are also available. To avoid last minute disappointments, it is strongly recommended that you book the hotels as soon as possible. The conference secretariat can also assist you in booking accommodation. Selection of accommodation and means of transportation for foreign delegates to Cox's Bazar and return to Dhaka will be decided by the organizers. We are in discussion with Tour Operators for organizing guided tours. Please follow the subsequent web instructions.

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## Steering Committee

|  |                  |
|--|------------------|
| <b>Prof. Jamilur Reza Choudhury</b><br>Former Professor of Civil Engineering, BUET   | Convenor         |
| <b>Engr. M. A. Sobhan</b><br>Chairman, Bangladesh Group of IABSE   | Member           |
| <b>Prof. Dr. Engr. S.M. Nazrul Islam</b><br>President, Institution of Engineers, Bangladesh  | Member           |
| <b>Dr. T. Konishi</b><br>Technology Center of Metropolitan Expressway, Japan<br>Chair of SubComm. of International Exchange, JSCE                | Member           |
| <b>Prof. K. Nogami</b><br>Tokyo Metropolitan University, Japan   | Member           |
| <b>Chief Engineer</b><br>Roads and Highways Department,<br>Government of the Peoples' Republic of Bangladesh                                     | Member           |
| <b>Chief Engineer</b><br>Local Government Engineering Department,<br>Government of the Peoples' Republic of Bangladesh                           | Member           |
| <b>Engr. Md. Rezaul Karim</b><br>Vice-President (Academic & International Affairs), IEB  | Member           |
| <b>Engr. Md. Nurul Huda</b><br>Chairman, Rajuk and Chairman, Dhaka Center, IEB   | Member           |
| <b>Dr. Gholam Mostofa</b><br>Chairman, Civil Engineering Division, IEB<br>Chairman, Dhaka WASA   | Member           |
| <b>Prof. Hamidur Rahman Khan</b><br>President, American Society of Civil Engineers Bangladesh<br>International Section                           | Member           |
| <b>Engr. I. A. Khan OBE</b><br>Institution of Civil Engineers,<br>United Kingdom Center Bangladesh   | Member           |
| <b>Dr. A.F.M. Saiful Amin</b><br>Bangladesh University of Engineering and Technology, Bangladesh<br>General Secretary, Bangladesh Group of IABSE | Member-Secretary |

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Dhaka, Bangladesh

## Technical Committee

**Prof. M. Nagai**

Nagaoka University of Technology, Japan

Chair of Sub Committee of Standard Specifications for Steel and Composite Structures, JSCE

**Prof. Y. Okui**

Saitama University, Japan

**Dr. A.F.M. Saiful Amin**

Bangladesh University of Engineering and Technology, Bangladesh

General Secretary, Bangladesh Group of IABSE

**Dr. Md. Mozammel Hoque**

Dhaka University of Engineering and Technology, Bangladesh

**Dr. Abdur Rahman Bhuiyan**

Chittagong University of Engineering and Technology, Bangladesh

**Prof. Muhammad Alamgir**

Khulna University of Engineering and Technology, Bangladesh

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Rajshahi University of Engineering and Technology, Bangladesh

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Development Design Consultants Ltd, Bangladesh

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Project Director, Padma Multipurpose Bridge Project, Bangladesh Bridge Authority

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University of Asia Pacific, Bangladesh

**Prof. Md. Anwarul Mustafa**

Ahsanullah University of Science & Technology, Bangladesh

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## Organizing Committee

|  |                  |
|--|------------------|
| <b>Engr. M. A. Sobhan</b><br>Chairman, Bangladesh Group of IABSE                                 | Convenor         |
| <b>Engr. Mesbahur Rahman Tutul</b><br>Honorary General Secretary, IEB                            | Member           |
| <b>Engr. S.M. Khorshed Alam</b><br>Vice President, Bangladesh Group of IABSE                     | Member           |
| <b>Prof. T. Mori</b><br>Hosei University, Japan<br>Chair of Committee of Steel Structures, JSCE  | Member           |
| <b>Engr. Md. Azizur Rahman</b><br>President, RHD Engineers Association, Bangladesh               | Member           |
| <b>Engr. Ali Masud Haider</b><br>Secretary, RHD Engineers Association, Bangladesh                | Member           |
| <b>Engr. Md. Mamunur Rashid</b><br>Secretary, Civil Engineering Divisional Committee, IEB        | Member           |
| <b>Engr. Afiluddin Ahmed</b><br>Roads and Highways Department, Bangladesh                        | Member           |
| <b>Prof. Munaz Ahmed Noor</b><br>Bangladesh University of Engineering and Technology, Bangladesh | Member           |
| <b>Engr. Farid Ahmed</b><br>Roads and Highways Department, Bangladesh                            | Member           |
| <b>Engr. Md. Didarul Alam</b><br>Secretary, ASCE Bangladesh International Section                | Member           |
| <b>Engr. Abu Saleh Md. Nuruzzaman</b><br>Roads and Highways Department, Bangladesh               | Member           |
| <b>Engr. Mahbub Haque</b><br>President, Bangladesh Association of Consulting Engineers           | Member           |
| <b>Engr. Sk. Md. Rafiqul Islam</b><br>Bangladesh Association of Construction Industry            | Member           |
| <b>Engr. Abdul Azim Joarder</b><br>Roads and Highways Department, Bangladesh                     | Member-Secretary |

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## International Advisory Committee

**Prof. A.M.M. Safiullah**  
Bangladesh University of Engineering and Technology

**Ueli Brunner**  
Executive Director, IABSE, Switzerland

**Prof. Y. Fujino**  
University of Tokyo, Japan

**Prof. H. Yamaguchi**  
Saitama University, Japan

**Prof. K. Sugiura**  
University of Kyoto, Japan

**Prof. S. S. Chakraborty**  
India Group of IABSE



## About destination

Dhaka, the venue selected for the Conference is the capital of Bangladesh. The city is has its exciting history and rich culture and is known to the world as the city of mosques and muslin. It has history dating back to earliest time. However, the exact date of its foundation is not known. However, according to recorded history it was founded in 1608 A.D. as the seat of the imperial Mughal Viceroy of Bengal. Dhaka as the capital of Bangladesh has grown into a busy city of about seven million people with an area of about 815 sq. km Having a happy blending of old and new architectural trends, Dhaka has been developing fast as a modern city and is throbbing with activities in all spheres of life. It is the center of industrial, commercial, cultural, educational and political activities for Bangladesh. At Tongi Teigaon, Demra, Pagla, Kanchpur the industrial establishments turn-out daily necessities. Motijheel is the main commercial area of the city. Dhaka's major waterfront Sadarghat is on the bank of the river Buriganga and is crowded with all kinds of river craft, yachts, country boats, motor launches, paddle - steamers, fishermen's boats all bustling with activity. Colorful rickshaws (tricycle) on the city streets are common attractions for the visitors. A few relics of Mughal and British era still mark the landscape of Bangladesh. The general landscape of Bangladesh is marked by greeneries and world's longest sea beach at the south.



## SCOPE

History and Planning

Materials, Analysis, Design and Construction

Design for Dynamic Forces

Geo-environmental and River Training Issues

Administration, Maintenance and Monitoring

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## DEADLINES

|               |   |
|---------------|---|
| May 15, 2010  | Submission of abstract via online   |
| May 31, 2010  | Acceptance of abstract via online   |
| July 01, 2010 | Deadline for receipt of full paper as per prescribed format via online      |
| July 10, 2010 | Deadline for information about acceptance of paper and mode of presentation |
| July 15, 2010 | Deadline for information about attendance as an author                      |

## Conference Secretariat

**Dr. A.F.M. Saiful Amin**

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Associate Professor, Department of Civil Engineering  
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