

What should be presented?

Each proposal will be presented on a single A2 size board. This board will include a list of the parameters to be measured in **each or all** of the three structures.

Sensors and facilities to be used as well as an elevation and plan drawings indicating their location into the structure together with a brief explanation of the proposal. Hand drawings are accepted and encouraged.

Judging Criteria

The submissions will be judged by a jury of engineers on the basis of the following criteria:

- Innovation
- Engineering concept in combination with advanced technologies
- Adequacy of the smart monitoring system
- Budget and practicability

While the solution should aim to satisfy the brief, a more elegant solution may be admissible even if it is outside the formal requirements.

Prize

- 1 Outstanding Design Award (1st Prize), Certificate+1000CNY
- 2 Excellent Design Award (2nd Prize), Certificate+500CNY
- 3 Exceptional Design Award (3rd Prize), Certificate+300CNY

Where?

Dongfang Hotel
120 Liu Hua Road, Guangzhou, China

When?

14:00-17:00 May 8, 2016 Young Engineer Workshop
19:00-21:00 May 8, 2016 YEP Party

Brochure with more information:
<http://iabseguangzhou2016.org>

Tutors

Mingshan Fang (Hong Kong-Zhuhai-Macau Bridge Authority), José TURMO (UPC Barcelonatech), Guido Morgenthal (Bauhaus University), Yaojun Ge (Tongji University)

Advisory Committee

Limin Sun (Tongji University), Mingshan Fang (Hong Kong-Zhuhai-Macau Bridge Authority), José TURMO (UPC Barcelonatech), Yaojun Ge (Tongji University)

Organizing Committee

Ye Xia (Tongji University), Jose Antonio Lozano Galant (University of Castilla-La Mancha), Zhigiang Shang (Tongji University), Igor Kavrakov (Bauhaus University - Weimar), Fernando Madrazo Aguirre (Imperial College), Yue Liu (SBP), and Marcin Bulkowski (Brandenburg University of Technology).

IABSE Young Engineers

The IABSE Young Engineers Programme (YEP) offers young engineers a platform inside IABSE to build up and enlarge their professional network as well as share experiences with other young engineers or experienced civil engineers. The Young Engineers Program is open to all engineers under 35 years of age.

Contact

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► Liede Bridge



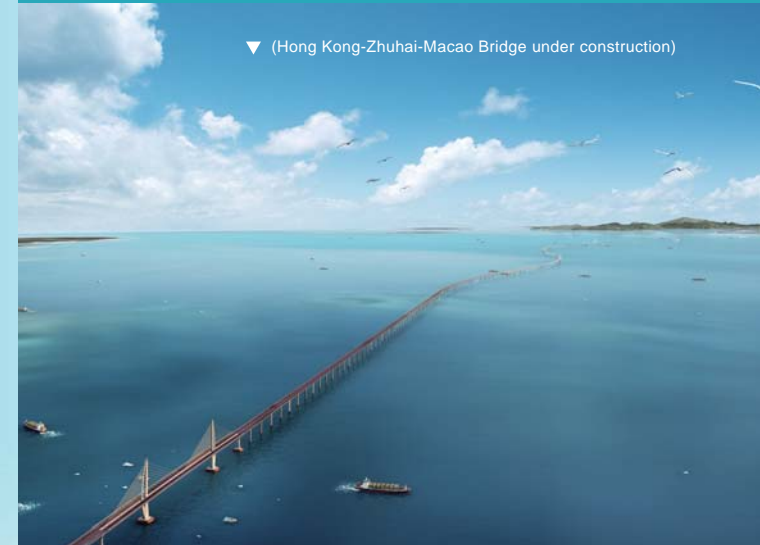
2016 Young Engineer Workshop

Smart System Design Competition

*Using Hong Kong-Zhuhai-Macau Bridge,
Guangzhou, China*

—Seeking Intelligent Solutions

▼ (Hong Kong-Zhuhai-Macao Bridge under construction)

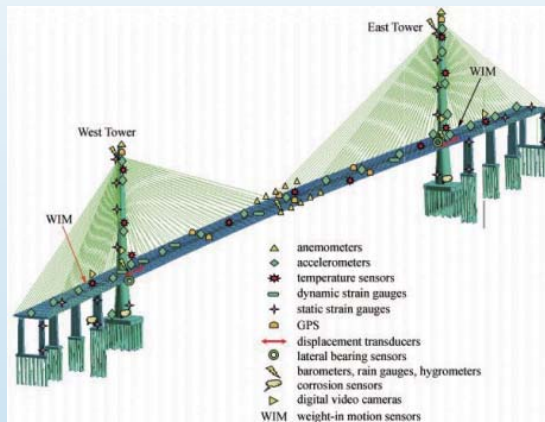


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Problem

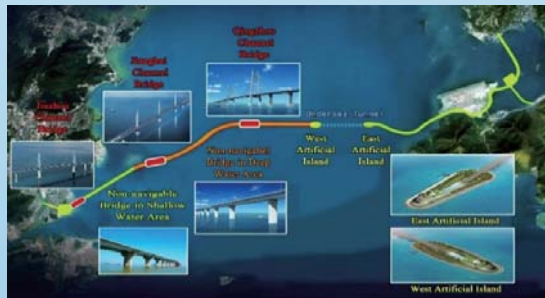
A **smart system** is to be designed in teams of young engineers or students to monitor adequately different structures of the Hong-Kong-Zhuhai-Macao Bridge Project. The proposal of new material and new technologies will also be considered positively. Example of SHM system:



Each proposal should include a list of the parameters to be measured, the sensors to be used as well as a elevation and plan drawings indicating their location into the structure. Each team will be tutored in a Workshop prior to the IABSE Guangzhou Conference, were expert engineers will guide them throughout the design process.

About Hong Kong-Zhuhai-Macao Bridge

Hong Kong-Zhuhai-Macao Bridge is a combination of bridges, a tunnel and artificial Islands crossing the Pearl River Estuary and linking Hong Kong to the East, and Zhuhai and Macao to the West (China).



Structures of HZMB project to be monitored

The proposal will be limited to the following 3 structures: Jiuzhou Channel Bridge, one segment of the continuous bridges in deep water areas, and a tunnel segment.

Structure 1: Jiuzhou Channel Bridge is a steel-concrete composite girder cable-stayed bridge with double pylons and single cable plane. The span arrangement of the bridge is 85m+127.5m+268m+127.5m+85m.



Structure 2: The superstructure of the continuous bridge in deep water areas is a continuous steel box-girder with six spans of 110m.



Structure 3: The immersed tunnel to be analyzed is a precast segment tunnel element with a length of 22.5m. respectively. Steel tubular piled foundation is used.



More detailed explanation of these structures can be found at the event brochure.

Who can participate?

The teams should range from 1 to 5 young participants including either young engineers or students of civil engineering around the world. The involved team are encouraged to physically join the event. Enrolment of teams is mandatory to assure space availability by sending emails to contact.

How is the event organized?

The teams are encouraged to think about their proposals. Then, during the Workshop, expert engineers will help them throughout the design process. After the comments of the tutors, each group will have 24 hours to correct their initial proposal. During this period, each team will be provided with an adequate working space at the Guangzhou Conference venue. The awards ceremony will be held during the closing ceremony. The students will be provided with drinks during this event. A welcome reception and YEP party will be held after the event.

Program

- **10th April 2016 End of the enrolling period.**

The teams willing to participate in the event are required to send their names to iabse2016guangzhou@tongji.edu.cn

- **1st May 2016 Proposal submission.**

The teams shall submit their proposal in A2 sized pdf with original files to contact.

- **8th May 2016 Young Engineer Workshop**

Each team will present their work and be tutored by experts in monitoring of structures for 3 hours. The participants are advised to elaborate an initial proposal to this workshop.

- **9th May 2016 Proposal submission.**

The teams will submit their A2 size board in pdf.

- **10th May 2016 Shortlisted entries notified.**

Selected proposals will be displayed at the conference venue. The awards ceremony will be held during the closing ceremony.

