



POLITECNICO
DI MILANO

IABMAS 2012

6th International Conference on
Bridge Maintenance, Safety and Management

Final Announcement

Stresa, Lake Maggiore / Italy
July 8 - 12 | 2012

Conference Chairs:

Fabio Biondini Politecnico di Milano, Milan / Italy

Dan M. Frangopol Lehigh University, Bethlehem, PA / USA



IABMAS 2012

The 6th International Conference on Bridge Maintenance, Safety and Management (IABMAS 2012) is organized on behalf of the International Association for Bridge Maintenance And Safety (IABMAS) under the auspices of Politecnico di Milano, Milan, Italy. The Conference will be held in Stresa, Lake Maggiore, Italy, on July 8-12, 2012 (<http://www.iabmas2012.org>).

IABMAS

The Association encompasses all aspects of bridge maintenance, safety, and management. The objective of the Association is to promote international cooperation in the fields of bridge maintenance, safety, and management for the purpose of enhancing the welfare of society (<http://www.iabmas.org>).

Aim of the Conference

The aim of IABMAS 2012 is to bring together all the very best work that has been done in the field of bridge maintenance, safety and management and related topics, to stimulate and promote research into this field, and to bridge the gap between theory and practice.

Delegates

The Conference will be of interest to researchers, representatives from all sections of bridge engineering, bridge engineers working with transportation departments, consultants, contractors and local authorities interested in all aspects of bridge maintenance, safety, and management.

Past IABMAS Conferences

IABMAS 2010, Philadelphia, PA, USA	July 11-15, 2010
IABMAS'08, Seoul, Korea	July 13-17, 2008
IABMAS'06, Porto, Portugal	July 16-19, 2006
IABMAS'04, Kyoto, Japan	October 18-22, 2004
IABMAS'02, Barcelona, Spain	July 14-17, 2002

Papers, Special Sessions and Mini-Symposia

The interest of the international bridge engineering community in IABMAS 2012 has been confirmed by a significant response to the call for papers, with over 800 abstracts submitted from 50 countries, 10 Keynote Lectures, 13 Mini-Symposia and 35 Special Sessions organized as part of the Conference.

Publication

The Conference Proceedings will be published by Taylor & Francis and will be distributed at the Conference to the registered participants. Extended versions of selected papers presented at the Conference will be considered for publication in *Structure and Infrastructure Engineering*, an international peer-reviewed journal endorsed by IABMAS and included in the ISI Science Citation Index (<http://www.tandf.co.uk/journals/nsie>).

Registration

Participants are required to register through the online registration system available on the conference website. The extended deadline for early bird registration is March 30th, 2012.

Exhibition

Exhibit booths will be made available at IABMAS 2012. The Exhibition area will be located in the Foyer of the Congress Centre and will provide the Exhibitors with the best exposure to the Conference Delegates. The list of registered Exhibitors and information about Exhibition opportunities are provided on the Conference website.

Sponsorships

Sponsorship opportunities are offered at IABMAS 2012. Sponsorship packets with special benefits are available for three sponsorship levels (Platinum, Gold, Silver). Tailored forms of sponsorship opportunities and benefits are also possible to get the desired level of involvement and exposure. Detailed information about Sponsorship opportunities is provided on the Conference website.

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CONFERENCE PROGRAM

T.Y. Lin & Keynote Lectures

T.Y. Lin Lecture

FRIEDER SEIBLE, *University of California, San Diego, La Jolla, CA, USA*
Precast Cantilever Bridge Construction in Seismic Zones: The San Francisco - Oakland Bay Bridge

Keynote Lectures

TULIO N. BITTENCOURT, *University of São Paulo, São Paulo, Brazil*
Renewal and Rehabilitation of the Brazilian Railway Bridge Infrastructure

JAMES BROWNJOHN, *University of Sheffield, Sheffield, UK*
Operational Deformations in Long Span Bridges

GIORGIO DIANA, *Politecnico di Milano, Milan, Italy*
Wind Tunnel: A Fundamental Tool for Long Span Bridges Design

BRUNO GODART, *Universit Paris-Est, IFSTTAR, Paris, France*
Pathology, Appraisal, Repair and Management of Old Prestressed Beam and Slab Bridges

CLAUDIO MODENA, *University of Padua, Padua, Italy*
Assessment and Retrofitting of Existing Bridges

RICHARD SAUSE, *ATLSS Center, Lehigh University, Bethlehem, PA, USA*
Innovative Steel Bridge Girders with Tubular Flanges

MASANOBU SHINOZUKA, *University of California, Irvine, CA, USA*
Remote Monitoring; Concept and Pilot Study

MAN-CHUNG TANG, *T.Y. Lin International, San Francisco, CA, USA*
The Art of Arches

KAY-YUEN WONG, *The Government of the Hong Kong Administrative Region, Hong Kong, P.R.C.*
System Design and Implementation of Structural Health Monitoring System and Maintenance Management System for Marine Viaduct Bridges

Mini-Symposia *

- MS 1 – **Field Tests for Bridge Assessment**
Ayaho Miyamoto, Ilkka Hakola
- MS 2 – **SmartEN ITN - Smart Management for Sustainable Built Environment Including Bridges and Structural Systems**
Toula Onoufriou, Rosemarie Helmerich
- MS 3 – **Research and Applications in Bridge Health Monitoring**
F. Necati Catbas, Joan R. Casas, Hitoshi Furuta, Dan Frangopol
- MS 4 – **Risk Based Bridge Management**
Leo Klatter
- MS 5 – **Reliability Analysis of Bridge Structures**
Franck Schoefs, Francesca Lanata
- MS 6 – **Extreme Events of Long Span Bridges: Design, Assessment and Management**
Airong Chen
- MS 7 – **Smart SHM and Application to Bridge Condition Assessment and Maintenance**
Yunfeng Zhang, Hoon Sohn, Chunsheng Wang, Daniele Zonta
- MS 8 – **Monitoring and Assessment of Bridges using Novel Techniques**
Alfred Strauss, Dan Frangopol
- MS 9 – **Inverse Reliability Analyses Techniques for the Lifetime Assessment of Bridges**
Roman Wendner, Alfred Strauss, Dan Frangopol, Konrad Bergmeister
- MS 10 – **Advances on Structural Robustness and Redundancy of Bridges**
Fabio Biondini, Dan Frangopol
- MS 11 – **Architectural and Engineering issues regarding Inspection and Maintenance of Historical Bridges**
Pier Giorgio Malerba, Vladimir Kristek
- MS 12 – **Brick and Stone Masonry Bridge Safety and Durability**
Andrea Benedetti, Lorenzo Jurina
- MS 13 – **Lifetime Design, Assessment, and Maintenance of Super Long-Span Bridges**
Hyun-Moo Koh, Soobong Shin, Ho-Kyung Kim, Nam-Sik Kim

* As of February 29th, 2012

Special Sessions *

- T.Y. Lin's Hundredth Birthday Special Session
Man-Chung Tang
- SS 1 – **Gusset Plates in Steel Truss Bridges: Testing, Analysis and Monitoring**
Dat Duthinh
- SS 2 – **TEAM: A Marie Curie Training Network on Bridge Management**
Ciaran McNally
- SS 3 – **Strengthening of Existing Bridges with FRP Composites**
Carlo Pellegrino
- SS 4 – **Energy Harvesting in Bridges and Transportation Infrastructure Networks**
Konstantinos Gkoumas
- SS 5 – **Vulnerability of Bridges to Fire and Explosion**
Luisa Giuliani
- SS 6 – **Light Rail Bridges in Chongqing, China**
Man-Chung Tang
- SS 7 – **Advances in Nondestructive Evaluation and Monitoring of Concrete Bridge Decks**
Nenad Gucunski
- SS 8 – **Bridges for High-Speed Railways**
Rui Calçada
- SS 9 – **Artificial Intelligence Methods in Bridge Analysis and Design**
Elsa Garavaglia, Luca Sgambi
- SS 10 – **Sustainability Assessment of Bridges**
Ulrike Kuhlmann
- SS 11 – **Numerical Simulation of Durability of Concrete Bridges**
Airong Chen
- SS 12 – **Steel Bridge Rehabilitation**
Masahiro Sakano
- SS 13 – **Analysis, Design and Testing of Road Timber Bridges**
Alessandro Palermo, Keith Crews, Robert Klinger
- SS 14 – **Risk-based and Disaster Resilience Analysis of Bridge Systems and Networked Infrastructures under Multiple Hazards**
Gian Paolo Cimellaro, Leonardo Dueñas-Osorio
- SS 15 – **Life-Cycle Design and Assessment of Bridges Exposed to Corrosion and other Hazards**
Fabio Biondini, Dan Frangopol, Jamie Padgett, Alessandro Palermo
- SS 16 – **Advanced Technologies in Standard Bridge Structures – from Research to Implementation**
M. Saiid Saiidi
- SS 17 – **Design and Seismic Analysis of Long Span Bridges – Case Studies**
Ayaz H. Malik
- SS 18 – **Advances in Modeling and Analysis for the Performance-Based Design of Bridge Structures subjected to Multiple Hazards**
Francesco Petrini, Alessandro Palmeri
- SS 19 – **Advances in Engineering Structure Management in Finland**
Marja-Kaarina Soderqvist
- SS 20 – **Hydraulic Problems related to Bridges and Infrastructure Systems**
Sauro Manenti
- SS 21 – **Operation and Maintenance of Major Landmark Bridges**
Jens Sandager Jensen
- SS 22 – **Recent Advances in Bridge Health Monitoring**
Christian F. Cremona, André D. Orcesi
- SS 23 – **Optical Monitoring Techniques for Bridge Maintenance and Safety**
Paul Sumitro, Hiroshi Matsuda
- SS 24 – **New Developments on the Bridge Safety, Maintenance and Management in Mexico**
David De Leon
- SS 25 – **Non Deterministic Schemes for Structural Safety and Reliability of Bridges**
Stefania Arangio
- SS 26 – **Structural Control of Bridges and Footbridges: Extreme and Every-day Events**
Luca Martinelli, Marco Domaneschi
- SS 27 – **Integral Bridges: Design and Technological Issues**
Pier Giorgio Malerba, Vladimir Kristek
- SS 28 – **Management and Preservation of Long Span Historic Bridges**
A. Emin Aktan, Franklin Moon, David S. Lowdermilk
- SS 29 – **Many Bridges Aren't Straight - Investigations of Curved and Skewed Structures**
Daniel Linzell
- SS 30 – **Lessons Learnt from the Canterbury Earthquakes: Assessment, Testing and Analysis of New Zealand Bridges**
Alessandro Palermo, Liam Wotherspoon
- SS 31 – **Corrosion Detection in Cables and Concrete Bridges by Magnetic Methods**
Al Ghorbanpoor, Bernd Hillemeier
- SS 32 – **Hybrid Composite Bridge System**
Hitoshi Furuta, Sang-Hyo Kim
- SS 33 – **Understanding and Enhancing Bridge Performance**
John M. Hooks
- SS 34 – **Extending Bridge Life Through Industry Academic Partnerships**
Eugene J. O'Brien

* As of February 29th, 2012

CONFERENCE VENUE

Palazzo dei Congressi and Hotel Regina Palace

Stresa, Lake Maggiore / Italy

The 6th International Conference on Bridge Maintenance, Safety and Management (IABMAS 2012) will be held in Stresa, a renowned resort town located in a charming position on the western shore of Lake Maggiore.

The Conference venue includes Palazzo dei Congressi and Hotel Regina Palace.

Palazzo dei Congressi is a modern Conference Centre located in the centre of Stresa, that will host the theatre/auditorium room for plenary sessions, the conference rooms for technical sessions, and the exhibition area.

The adjacent Regina Palace, a luxury hotel directly facing the lake and Borromean Islands, will host the conference rooms for committee meetings and halls for the social program.

Regina Palace, opened in 1908, is an Art Nouveau building that still preserves its *fin de siècle* fascination, even though it has a renewed appearance as a result of a meticulous, albeit conservative refurbishment programme leading to a unique combination of charm and modernity.

The century-old park of Regina Palace, endowed with a private pool and a tennis court, forms an integral part of the Conference venue environment and will offer a chance to relax during the conference breaks.



Social Program

The Conference Social Program includes a Welcome Reception, a Gala Dinner, and a Boat Cruise on Lake Maggiore. These events will be offered to all registered Conference Delegates and Accompanying Persons.

A series of optional tours for Accompanying Persons only, including guided visits to the historical centres of Milan and Como and day trips by ferry boat on Lake Maggiore to visit the magnificent Borromean Islands, with the monumental Baroque Palazzo Borromeo and the amazing botanical gardens, will also be organized. The optional tours will require a separate registration.



Organizing Association

IABMAS, International Association for Bridge Maintenance and Safety

Organizing Institution

POLIMI, Politecnico di Milano

Supporting Local Authorities *

Regione Lombardia - Lombardy Regional Administration

Regione Piemonte - Piedmont Regional Administration

Consiglio Regionale del Piemonte - Regional Council of Piedmont

Provincia di Milano - Province of Milan

Provincia del Verbano Cusio Ossola - Province of Verbano Cusio Ossola

Comune di Verbania - Municipality of Verbania

Comune di Stresa - Municipality of Stresa

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AICAP, Associazione Italiana Calcestruzzo Armato e Precompresso, Italy

AIOM, Associazione di Ingegneria Offshore e Marina, Italy

ACI, American Concrete Institute, USA

ARS.UNI.VCO, Associazione per lo sviluppo della cultura, degli studi universitari e della ricerca nel Verbano Cusio Ossola, Italy

ASCE, American Society of Civil Engineers, USA

ASCP, The Portuguese Group of IABMAS, Portugal

ATLSS, Center for Advanced Technology for Large Structural Systems, USA

CERIC, Civil Engineering Research Information Center, Korea

COSEIK, Computational Structural Engineering Institute of Korea, Korea

CNI, Consiglio Nazionale degli Ingegneri, Italy

CTE, Collegio dei Tecnici della Industrializzazione Edilizia, Italy

FHWA, Federal Highway Administration, US Dept. of Transportation, USA

Fondazione Promozione Acciaio, Italy

IALCCE, International Association for Life-Cycle Civil Engineering

IASSAR, International Association for Structural Safety and Reliability

IBRACON, Brazilian Concrete Institute, Brazil

ISISE, Institute for Sustainability and Innovation in Structural Engrg., Portugal

JABMAS, Japanese Association for Bridge Maintenance And Safety, Japan

JRC, Joint Research Centre, European Commission, Italy

JSCE, Japan Society of Civil Engineers, Japan

JSMS, Japanese Society of Materials Science, Japan

KAIST, Korea Advanced Institute of Science and Technology, Korea

KBRC, Korea Bridge Design & Engineering Research Center, Korea

KCI, Korean Concrete Institute, Korea

KSSC, Korean Society of Steel Construction, Korea

KU, Kansai University, Japan

Kyoto University, Japan

RCEAS, P.C. Rossin College of Engineering and Applied Science, Lehigh University, USA

ReLUIS, Rete dei Laboratori Universitari di Ingegneria Sismica, Italy

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SISTEC, Smart Infra-Structure Technology Center, Korea

SNU, Seoul National University, Korea

Tongji University, China

TRB, Transportation Research Board of the National Academies, USA

T.Y. Lin International, USA

UPC, Technical University of Catalonia, Spain

UM, University of Minho, Portugal

* As of February 29th, 2012

In the front cover:

View of the Europa Bridge in Parma, Italy

Owner: Authority for Urban Transformation, Parma, Italy

Contractor: Impresa Pizzarotti & C. and Codelfa S.p.A., Italy

Architectural Design: Vittorio Guasti Architettura S.r.l., Parma, Italy

Structural Design: Pier Giorgio Malerba, Paolo Galli and Marco Di Domizio, Milan, Italy

Construction Engineering: Paolo Sorba A.Ierre P&L Engineering, Parma, Italy

Plants Design: Pool Engineering, Mareno di Piave, Treviso, Italy

Environmental Planning: Ambiter S.r.l., Parma, Italy

IABMAS 2012 Organizing Secretariat

Incentives e Congressi

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