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STRUCTURAL ENGINEERING INTERNATIONAL



International Association for Bridge and Structural Engineering (IABSE)



Fibre Reinforced
Polymer Composites

IABSE Annual Meetings

Venice, Italy, September 19–21, 2010



SEI Editorial Board and Nominees

The 2010 Annual Meetings were held at the Palazzo del Casino, at the Lido in Venice, prior to the 34th IABSE Symposium. There was a good attendance with 140 participants and 55 accompanying persons. Accompanying persons discovered Venice and islands

and enjoyed the social events together with committee members: on Sunday Ms Evelyne Stampfli, Deputy Consul General of Switzerland, gave a reception at the Excelsior Hotel. On Monday evening, Jacques Combault, President of IABSE welcomed all delegates, and

Carlo Urbano, Chair of the Italian Group, in his turn welcomed all to Venice with drinks and delicious food on Tuesday evening.

The Annual Meetings included the Administrative, Executive, Permanent Committee and Chair National Groups, Technical Committee, Editorial, Correspondents and E-Learning Boards, Working Commissions, Working Groups, Scientific Committees, Young Engineers Board, the Advisory Group to the Executive Committee and the IABSE Foundation Council.

The Permanent Committee approved the annual statement of accounts 2009 and the budget 2011. The annual accounts 2009 closed with total net revenues of CHF 989'066 and an excess of revenues of CHF 17'505. The Association funds amount to CHF 467'658 as on December 31, 2009. For the year 2011 a budget with total net revenues of CHF 1'087'700 was approved.

The Permanent Committee changed the article 14 of the By-Laws and made English the sole official language of IABSE as from January 1, 2011.

Predrag (Pete) Popovic, USA, New President of IABSE

Jacques Combault ended his term as President on October 31, 2010. At the Closing Ceremony of the 34th IABSE Symposium he thanked his colleagues on the Administrative and Executive Committees, and all those who have made the Technical Committee more dynamic and efficient by encouraging the creation of new Working Groups and making IABSE E-Learning become a reality. During the three years of his presidency several successful international events were held: the Congress in Chicago, Symposia in Bangkok and Conferences in Helsinki and Dubrovnik, a Bridge Workshop and spectacular tour in China. Jacques Combault attended four Outstanding Structure Award plaque presentations and welcomed one new National Group to the Association. The 80 years of IABSE were celebrated by making all IABSE publications from

1929–1999 available for free online to the general public. A new more dynamic website is on its way to serve the Association for an even better exchange of structural engineering knowledge.

Pete Popovic took the opportunity during the Closing Ceremony to thank Jacques Combault and his wife Danièle, who has assisted and supported her husband during his presidency.

Pete Popovic from Wiss, Janney, Elstener Associates, Inc., USA, has taken office as President of IABSE on November 1, 2010, for a period of three years. He is the second IABSE President from USA. Pete Popovic is Member of IABSE since 1985 and knows the Association well. He has been Chair of Working Commission 8, Member of the Technical Committee, Member of the Outstanding Structure



Pete Popovic, USA, President of IABSE

Award Committee and Vice-President of IABSE. His contributions to IABSE

conferences are numerous and he was the Chair of the Organising Committee for the Chicago Congress in 2008.

Pete Popovic's fields of expertise are the design, assessment and repairs of bridges and buildings. He has in particular expertise in assessment and repair of concrete structures and of fatigue damage in steel bridges, and exterior facades of high-rise buildings.

During the first ten years of practice, he participated in structural design of major steel bridges and rapid transit systems in Chicago, New York and Atlanta, USA. He was engaged in the design of post-tensioned box girder bridges in Kuwait. Over the last 30 years, he has evaluated and designed repairs for over 1500 structures. Major projects included assessment of steel bridges for fatigue damage, investigation of collapses of bridges and buildings, assessment and design of repairs for exterior facades of high-rise buildings up to 60-stories tall, and assessment and repair of over 100 parking structures.

Pete Popovic has published over 40 technical papers on assessment, load testing, strengthening and repair of bridges, buildings and parking structures and is a contributing author to



Jacques and Danièle Combault and Pete Popovic

several books. He has received awards from the International Concrete Repair Institute for innovative repair projects and is an invited lecturer at the University of Wisconsin, USA and World of Concrete (USA and Mexico) on topics of concrete repairs, rehabilitation of parking structures, and prevention of structural failures.

As President of IABSE Pete Popovic intends, to work in making IABSE more visible and increasing IABSE membership. His goal is to have National Groups play an increasing role in recruiting new members and retaining existing members. The goal is to increase IABSE membership by 500 over the next three years.

IABSE Awards 2010

Jacques Combault, President of IABSE, presented the IABSE Awards at the Permanent Committee (Honorary Memberships) and at the Opening Ceremony of the 34th IABSE Symposium in Venice on the 21st and 22nd of September.

Honorary Membership

Honorary Membership is presented to an Individual Member of IABSE, for exceptionally great services rendered to the Association.

The Executive Committee of IABSE has awarded Honorary Membership to Prof. Aarne Jutila, Finland. The President of IABSE presented the Award at the Permanent Committee meeting on September 21, 2010, 'in recognition to his outstanding and dedicated services to the Association'.



Aarne Jutila, Finland

Born 1940 in Helsinki, Aarne Jutila received his Civil Engineering degree at Helsinki University of Technology (TKK) in 1966, with major subject "Bridge Engineering". After graduation he studied a year at ETH, Zurich, as "Bundesstipendiat" under the guidance of Bruno Thürlimann. Later he worked as bridge designer

at Kjessler and Mannerstråle AB in Stockholm and Tapiola, Finland, as Assistant Lecturer at Queen's University of Belfast, Northern Ireland, and as section chief at the Finnish Road Administration's bridge design office (TVH) in Helsinki before founding of and working for three consulting engineering companies. Besides that he also worked as assistant, laboratory engineer and, since 1984, as Professor of Bridge Engineering at TKK. He retired in August 2008 and continues his bridge engineering activity as Managing Director of Extraplan Oy, consulting engineers, that he founded in 1977.

Aarne Jutila joined IABSE in 1967, and has since then held numerous functions within the Association: Secretary of the Finnish Group 1972–88 and Chair since that, Vice-Chair of the Organising Committee of the 1988 Helsinki Congress, SEI

Correspondent and Member of the Editorial Board 1991–2000, Member of several scientific committees (Malmö 1999, New Delhi 2005, Dubrovnik 2010), Chair of the Scientific Committee of the Lahti Conference in 2001, Member of the Executive Committee and Vice-President 1999–2007.

He continues his engagement for IABSE: Chair of the Finnish Group, Member of the Permanent Committee, Member of the Foundation Council Board, Member of the Advisory Group to the Executive Committee of IABSE.

Honorary Membership



Hai-Fan Xiang, China

The Executive Committee of IABSE has awarded Honorary Membership to Prof. Hai-Fan Xiang, China. Jacques Combault gave a speech at the Permanent Committee meeting on September 21, 2010, and informed that Prof. Xiang, was not able to travel to Venice and that Pete Popovic, future President of IABSE, would present the Diploma to Prof. Xiang at a Ceremony at Tongji University, *'in recognition of his outstanding and dedicated services to the Association'*.

Hai-Fan Xiang graduated from Tongji University in 1955 and acquired his master in 1958. Since then he has worked at Tongji University for more than 50 years. He gained the Research Fellowship of Alexander von Humboldt Foundation and worked as a visiting professor at Ruhr University, Bochum, Germany in 1981 and 1982. As a pioneer in bridge wind engineering in China, he devoted his research field to the wind-resistance of long-span bridges after returning to Tongji University in 1982. He was awarded the title of National Outstanding

Expert in 1986. In 1995, he was elected as an Academician of the Chinese Academy of Engineering. In 2007, he became an Emeritus Professor of Tongji University.

He has been the first Chairman of Department of Bridge Engineering, the founding Dean of College of Civil Engineering, and the Director of the State Key Laboratory for Disaster Reduction in Civil Engineering. He has published 12 books, numerous articles domestically and internationally. He has received more than 20 national awards and several international awards including the R.H. Robert Scanlan Medal of ASCE and the Anton Tedesko Medal of the IABSE Foundation for the Advancement of Structural Engineering.

Hai-Fan Xiang is President of the Institution of Bridge and Structural Engineering of China, and Chairman or Co-Chairman for more than ten organisations. He joined IABSE in 1992 and has dedicated his time to the Association on several Scientific Committees for conferences held in Seoul 2004, Shanghai 2004 (Chair) and New Delhi 2005. Former Vice-President of IABSE (2001-2009), he is currently a Delegate to the Permanent Committee and on the Structural Engineering International (SEI) Advisory Board and a Member of the Foundation Council of IABSE.

International Award of Merit in Structural Engineering

The International Award of Merit in Structural Engineering is conferred for outstanding contributions in the field of structural engineering, with special reference to their usefulness to society. Contributions may include various aspects in Planning, Design, Construction, Materials, Equipment, Education, Research, Government, and Management. The Executive Committee of IABSE has conferred the International Award of Merit in Structural Engineering to Man-Chung Tang, USA, *"for blending art and engineering, and together successfully creating innovative concepts for signature bridges that are admired by both his peers and the general public alike"*.



Man-Chung Tang, USA

Man-Chung Tang is the Technical Director and Chairman of the Board



Dagu Bridge, Tianjin, China

of T.Y. Lin International, a globally recognised consulting firm with headquarters in San Francisco, USA.

Man-Chung Tang received his Doctor of Civil Engineering in 1965 from the Technical University Darmstadt, Germany. His career spans more than 44 years, and encompasses designing and constructing over 100 bridges worldwide, including 32 cable-stayed bridges, four major suspension bridges, and numerous segmental bridges. A true leader and icon, Dr. Tang's contributions to innovations in bridge design are demonstrated through teaching, writing over 100 technical papers, and offering numerous presentations. He is an honorary professor at ten universities, a member of the U.S. National Academy of Engineering, a foreign member of Chinese Academy of Engineering, and an honorary member of the American Society of Civil Engineers (ASCE).

A world authority on cable-stayed bridges, Man-Chung Tang served as Chairman of the American Society of Civil Engineers (ASCE) committee on cable-suspended bridges and published the definitive guideline for the design of cable-stayed bridges, used today by engineers all over the world. Dr. Tang is also a founding member of the Post-Tensioning Institute (PTI) committee that published "Recommendations for the Design and Testing of Stay Cables," also used worldwide.

Man-Chung Tang's bridges, besides being safe, functional and economical, are considered works of art—beautiful structures that blend seamlessly with their surroundings. It is often quoted that "the sun never sets on a Dr. Tang bridge," as his designs can be found all around the globe. Man-Chung Tang continues to advance the field of bridge engineering as an innovator and an educator and he has been continually recognised by his peers for his dedication to the field.

IABSE Prize

The IABSE Prize was established in 1982 to honour a Member early in his, or her career for an outstanding achievement in the field of structural engineering, in Research, Design or Construction. The Prize is presented to Individual Members of IABSE, forty years of age or younger.

The Executive Committee of IABSE has presented the IABSE Award 2010 to Roberto Revilla Angulo, Spain, 'in



Roberto Revilla Angulo, Spain

recognition of his significant involvement in many major bridge projects, specially for his contribution in the design, project of Montabliz Viaduct'.

Roberto Revilla Angulo, was born in Bilbao (Spain) in 1970. He studied at the Technical Civil Engineers University College of Santander, and graduated in 1995. He has since then worked with Apia XXI, where he has been the Head of the Structures Department since 2000. At the time he is finishing his Doctoral Thesis "*Stability of great high piers of bridges built by cantilever method*", at the Structural and Mechanical Department at the University of Cantabria. Montabliz Viaduct has allowed him to participate in some research works such as special studies of earthquake, wind and fire; wind tunnel tests; terrain-structure interaction studies of the foundation of piers and monitoring both static and dynamic structural behaviour during its construction.

Important projects he has developed include: Navas Viaduct, Caviedes Viaduct, Viaduct over Voltoya River, New Bridge over Ebro Reservoir, Santander's Bay Ring Footbridge, Montabliz Viaduct and New Bridge over Llobregat River. He has won the Idea Tenders of the New Bridge over Guadaira River (Sevilla) and the New Bridge over Llobregat River (Barcelona). Roberto Revilla's professional passion has always been to design bridges taking care of aesthetics and in full harmony with the surrounding, breaking civil engineering architecture barrier.

Outstanding Paper Award

The Outstanding Paper Award is remitted each year to the author(s) of a paper published in the preceding year's issues of the IABSE Journal

Structural Engineering International (SEI), encouraging and rewarding contributions of the highest quality. It was first launched in 1991.

The Outstanding Paper Award Committee, chaired by Professor Akira Wada, Japan, has conferred the Outstanding Paper Award to Andreas Breum Ølgaard, Jens Henrik Nielsen, and John Forbes Olesen, Denmark, for their paper:

"Design of Mechanically Reinforced Glass Beams: Modelling and Experiments" Published in *Structural Engineering International (SEI) May 2009*.

The paper is a study on how to obtain a ductile behaviour of a composite transparent structural element. The structural element is constructed by gluing a steel strip to the bottom face of a float glass beam using an epoxy adhesive. The composite beam is examined by four point bending tests, and the mechanisms of the beam are discussed. Analogies to reinforced concrete beam theory are made; thus, four different design criteria, depending on the reinforcement ratio, are investigated. Analytical expressions are derived that are capable of describing the behaviour in an uncracked stage, a linear cracked stage and a yield stage. A finite element model, capable of handling the cracking of the glass by killing elements, is presented.

Both analytical and numerical simulations are in fairly good agreement with the experimental observations. It appears that the reinforcement ratio is limited by the risk of anchorage failure and must be adjusted accordingly to obtain safe failure behaviour in a normal reinforced mode. Analysis of anchorage failure is made through a modified Volkersen stress analysis. Furthermore, different aspects of the design philosophy of reinforced glass beams are presented.

Outstanding Structure Award

The Outstanding Structure Award (OStrA) was established in 1998. It is one of the highest distinctions awarded by IABSE and recognises, in different regions of the world, some of the most remarkable, innovative, creative or otherwise stimulating structures completed within the last few years. The Outstanding Structure Award

Committee is chaired by Mr. William J. Nugent, USA. In 2010 the Outstanding Structure Award is awarded to.

***The National Aquatics Center,
Beijing, China,***

for being, “a breathtaking interlocked soap bubble architecture of ETFE pillows within a polyhedral steel space frame resulting in outstanding aesthetic harmony of form function and structure which is energy efficient and pleasing to all”.

Unusually in this era of architectural form making, the Beijing National Aquatics Centre, was generated as much by engineering intent as for its beauty. It is the result of an outstanding collaboration between Arup, PTW architects and CCDI. The primary purpose of the “box of bubbles” is to trap as much solar energy as possible and use it to both heat the swimming pools and light the internal spaces. This “insulated greenhouse” saves 30% of the required heating energy and 55% of the artificial lighting. This energy saving is equivalent to cladding the whole building with solar panels. It also provides a quality of internal light and space that needs to be physically experienced to be really appreciated. The structure is based on a solution to the century old mathematical



“The Water Cube”, China

conundrum posed by Lord Kelvin: “What is the most efficient way of subdividing three dimensional space?” This puzzle is now thought to have been solved by Professor Weaire and Dr Phelan, whose foam is also the geometry of a perfect array of soap bubbles.

The geometry of Weaire-Phelan foam provided a unique structure that may be the most earthquake resistant building in the world. The building is not a pattern applied to a box, but a

box carved from a theoretically perfect and repetitious array of bubbles. The final building is satisfying on many levels: as a beautiful object; a poetic expression of bubbles and water; the physical manifestation of an abstract theoretical geometry; a through thickness pattern; complementary to its neighbour, the Bird's Nest, and uplifting to be in. But most importantly it is entirely sustainable and achieves pure engineering objectives.

**Outstanding Structure Award
Finalists**

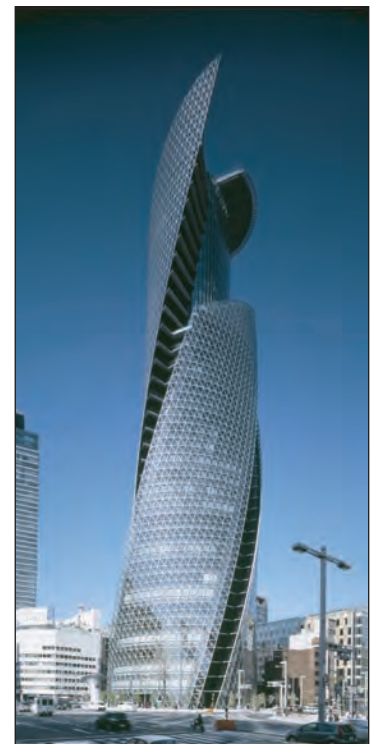
Starting with the 2010 Outstanding Structure Award, IABSE is pleased to present the three Finalists selected by the OStrA Committee.

Mode Gakuen Spiral Towers, Nagoya, Japan. Its design includes three towers intertwined in a spiral form, suggesting the intertwined rising energy of the students of Mode Gakuen's three schools: its fashion school (MODE), computer and animation school (HAL), and medical school (ISEN).

The building has 36 floors above ground, three basement levels, and two penthouse levels. Its height is 170 meters above ground and 21 meters underground. A central core having an oval cross-sectional shape consists of three wings having fan-shaped cross sections, radially arranged next to each other. The planar configuration changes with height. Three classrooms

are arranged in the respective wings around the central core, which includes stairwells and elevator shafts. Ascending higher in the building in a spiral pattern, the rooms gradually become smaller in size. Displacement of the centers of rotation of the three wings produces an external appearance of organic curves.

Twelve straight columns are arranged around this core, and braces are connected to these columns in a mesh network, forming the thick central trunk of the tubular structure (called an “inner truss tube”). This tubular structure is highly strong and rigid with regard to horizontal and twisting forces exerted on the building by earthquakes and high winds, providing the necessary structural performance. With no braces around the outside, a transparent appearance is achieved; and minimal, thin-diameter columns provide lower rigidity for a light frame that does not bear seismic forces.



Mode Gakuen Spiral Towers, Japan

Sutong Bridge, China. Sutong Bridge is located in the southeast of Jiangsu Province, China, which is in the lower reaches of the Yangtze River. The visionary project was motivated by the need for a highway route crossing the Yangtze River and linking Suzhou and Nantong at the opposite banks. The total length of the Bridge project is 32,4 km, consisting of three main parts, the viaducts on both banks of the river and the central part over the water, which is about 6 km long. The central part comprises of the main cable-stayed bridge with the world record 1088 m span as main navigational channel, a continuous rigid frame bridge with a main span of 268 m as secondary navigational channel, and approach bridges.



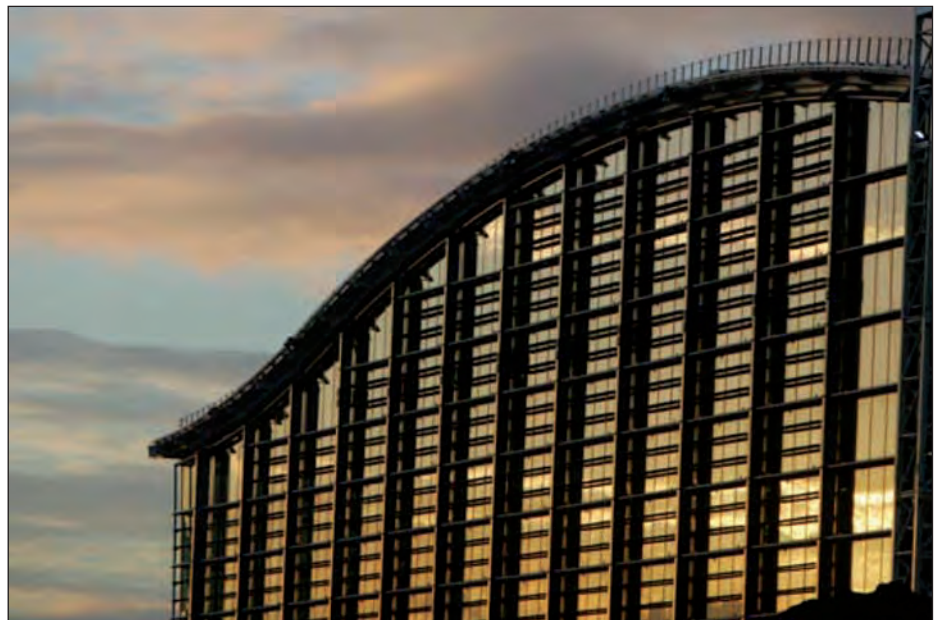
Sutong Bridge, China

The bridge substructure was designed and constructed with the emphasis on sustainable development or environmental protection in the mother river of China, Yangtze River. This aim was achieved through selecting group pile foundation instead of caisson to alleviate the impact on the river flow, installing various scour protection to minimise the erosion in the river bed,

and adopting partially hydrolysed polyacrylamide (PHP) system for clay mud treatment to reduce the disposal of bored pile construction. One of the most significant challenges in the construction of this super-long cable

stayed bridge was geometry control. The unique complexity of Sutong Bridge required specially developed methods and procedures to control the geometry profile and safety of the bridge during the construction period.

Heathrow Terminal 5A, UK. The 156 m clear span roof encloses three mio. sq. ft. floor space framed in steel over three storeys. The unconventional height of the building was in response to the challenge of having to build within the constraints of two runways and the greenbelt beyond them.



Heathrow T5A, UK

The T5A roof is an awe inspiring structure that arches over the terminal building. The roof carries huge compression forces which are essential to prevent the buckling of its individual parts and of the structure as a whole. One of the pioneering analysis techniques employed on this project was modal buckling analysis. This calculated the effective reduction in lateral stiffness that is caused by compression forces within the structure and used eigenvector analysis to predict the most critical possible buckling modes. The mode shape data was then processed to give sets of design forces, ensuring a consistent reserve of strength against buckling, without providing extra strength where it was not needed.

The central arched section of the roof needed to be assembled, clad, and pre-stressed at ground level before being lifted into position using strand jacks. This creative approach was vital to ensure that the whole operation

could be carried out below the airport radar ceiling and that the risk from working at height would be reduced. This idea became an integral part of the building design and construction planning of the whole Terminal.

The IABSE Foundation Anton Tedesko Medal

The Anton Tedesko Medal is awarded by the IABSE Foundation for the Advancement of Structural Engineering. The Award has two components: the first is a medal awarded to the Laureate in recognition of his contribution to the advancement of structural engineering. The second part is a sum of 25'000 Swiss Francs to be used by the Laureate in order to organize and finance a study leave abroad for a young promising engineer (Fellow) outside his/her home country with prestigious engineering firms. Klaus Ostenfeld, Chair of the IABSE Foundation Council, conferred the Anton Tedesko Medal to Prof. Koichi Takanashi, at the Symposium Opening Ceremony *"in recognition of his dedication to excellence in structural engineering and his role as a mentor for young engineers"*

Koichi Takanashi has supervised many students and directed research projects at the Universities of Tokyo, Chiba and Kougakuin. His research has been focused on plastic design and seismic design. One of his outstanding accomplishments was the establishment of

the overall testing method to combine numerical analysis of structural system in the computer and the test of structural frames in 1974. This method has advanced research to precisely understand the behaviour of structural frames. This method is now widely used in the world and developed as one of the standard methods in earthquake response analysis and structural testing. As his important role in the structural engineering society, he chaired the 'Structural Design Appraisal Committee of Tall Buildings' for eight years, where structural design works of all tall buildings in Japan were examined and appraised from the viewpoint of the structural performance against earthquake. Also, he directs big research projects. His latest project is "Development of a new structural system" which was reported in SEI Vol. 20 No. 1. Prof. Takanashi is currently President of the Japan Society of Structural Steel Construction (JSSC), Member of the Architectural Institute of Japan (AIJ) and the International Association for Bridge and Structural Engineering (IABSE).

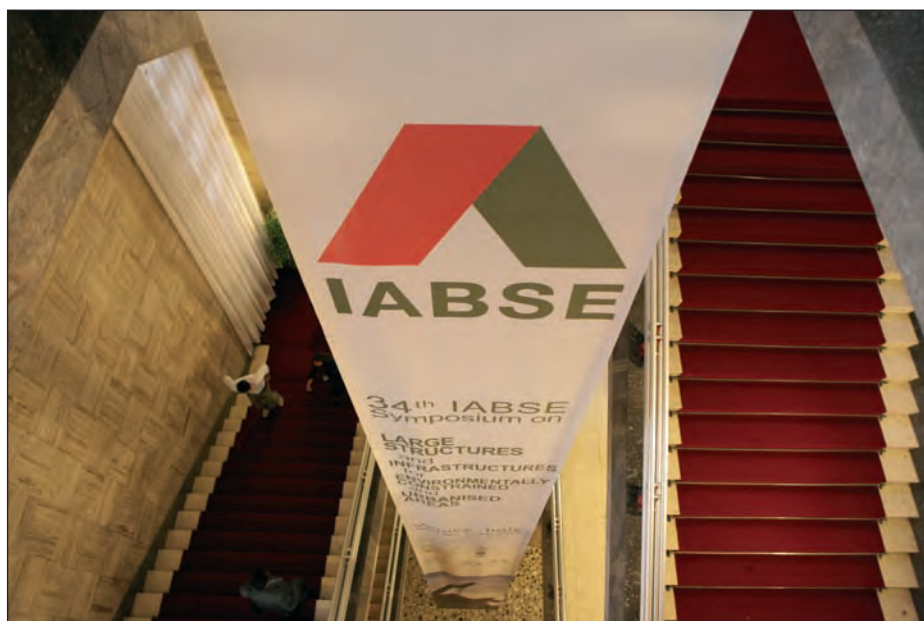


Koichi Takanashi, Japan

Within IABSE Koichi Takanashi has contributed comprehensively since his first presentation of his paper in IABSE Symposium Lisbon in 1973. He has submitted numerous papers and given his support to an IABSE Congress and Symposium as an Invited and a Keynote Speaker. He participated in Working Commission 8 and 5 as a member. He convened IABSE Symposium Davos, Rome and Kobe as a Member of the Scientific Committee. He further has extended his efforts as a Vice-President from 1997–2005, served as Chair of the Japanese Group from 1999–2005, he was also a Member of the IABSE Outstanding Structure Award Committee.

IABSE Symposium Venice, September 22–24, 2010

Large Structures and Infrastructures for Environmentally Constrained and Urbanised Areas



Venice 2010 Symposium Banner

The Italian Group of IABSE, chaired by Carlo Urbano, welcomed the world's structural engineers and their accompanying persons to an important event that promoted science and practice in Bridge and Structural Engineering at its highest levels. For the IABSE Symposium it was a return to Venice, after it had been hosted in the Serenissima for the first time back in 1983.

The Organising Committee was chaired by Enzo Siviero, Italy, the Scientific Committee by Massimo Majowiecki, Italy and the Advisory Committee by Anton Steffen, Switzerland. The excellent Secretaries were Bruno Briseghella for the Organising and Tobia Zordan for the Scientific Committee. The symposium topic had found the interest of a considerable number of Italian Universities, including the Istituto



Carlo Urbano, Chair, Italian Group of IABSE

Universitario di Architettura di Venezia and the Politecnico di Milano as co-organisers, and the Universities of Naples, Rome, Trento and Turin as supporters.

The Palazzo del Casino and the Palazzo del Cinema, at the Lido in Venice served as venues. The attendance was high with almost 600 participants including accompanying persons. Out of 400 abstracts submitted to the theme 'Large Structures and Infrastructures for Environmentally Constrained and Urbanised Areas' the Scientific Committee selected 210 papers for oral presentation and some 150 for poster presentation, from 47 countries.

The Opening Ceremony

Welcome and Introductory Speeches were made by Carlo Urbano, Chair of the Italian Group of IABSE; Enzo Siviero, Chair of the Organising Committee; Antonio Paruzzolo representing Giorgio Orsoni, Mayor of Venice, Don Alberto representing Angelo Scola, Cardinal of Venice, and Jacques Combault, President IABSE, who subsequently presented the IABSE Awards 2010. Klaus Ostenfeld, Chair of the IABSE Foundation Council then conferred the IABSE Anton Tedesko Medal. Alberto Scotti gave an invited lecture on 'The Venice Mose Project: an Holistic and Interdisciplinary Approach for Innovative Interventions' and completed the Ceremony.

Symposium Contents

Keynote Lectures, Presentations and Posters addressed the following main topics: Basis of Design; Infrastructure and Design as Meeting Point for Architecture and Engineering; Infrastructure Hazard and Safety Concepts; Management and Planning of Operation and Maintenance; Ethics and Social Responsibility.

Keynote Lectures

- Giorgio Diana, Italy
The Messina Strait Bridge: Major Problems Affecting the Design
- Klaus Ostenfeld, Denmark
An Integrated Multidisciplinary Approach to Design of Major Fixed Links
- Jiemin Ding, China
Recent Applications and Practices of Large-Span Steel Structures in China.

Invited Lectures were given on the following days of the Symposium: 'Traceability Systems and Quality Systems: two Sides of same Coin', by Corrado Baldi; 'The Raising of the Buildings of the City of Venice for the Safeguard from the High Water', by Enzo Siviero.

Symposium Report

Three Keynote Lectures and 375 contributions have been collected in the Symposium Report

and on a CD. The book (899 pages) and CD can be ordered at: www.iabse.org/publications/onlineshop/

BASAAR

Several IABSE Working Commissions' and Working Groups held their annual 'BASAAR' (Briefings About Structural Applications and Research) on Wednesday afternoon, September 22. The purpose of the BASAAR is to promote a lively discussion about a topic predetermined by each Working Commission or Group. Following topics were presented and discussed:

The Long-term Structural Performance (Life-Cycle Costs)

by F. Biondini, Italy and M. Torkkelli Finland, (Co-ordinator M. Söderkvist, Finland, WC1)

Monitoring – Does it make Sense?

by R. Geier, Austria and S. Nakamura, Japan, (Co-ordinator: R. Geier, Austria, WC 2).

Structural Safety Assessment of Concrete Structures

by J. McGormley, USA; M. Matsumoto Japan and C. Bob, Romania, (Co-ordinator: J. Tortorella, USA, WC 4).

The Long Term Issues Facing Structural Engineers in Environmentally Constrained Urban Areas

by A. Boegle, Germany; A. Meyboom, Canada and F. Saad, Egypt, (Co-ordinator: W. Anderson, Canada, WC 5)

Integrating Sustainability into Structures

by J. Kanda, X. Ruan, China and J. Anderson, USA, (Co-ordinator: J. Kanda, Japan, WC 7)

Seismic Resistance of Structures – Lessons from Devastating Earthquakes (Chile, Mexico, Turkey, Haiti, Greece)

by L.F. Fargier Gabaldon, USA; C. Mendez, Switzerland; M. Gercek, Turkey and D. Sonda, Italy, (Co-ordinator: St. Dritsos, WG 7)

In addition to the BASAAR a video presentation 'Vibrations of the Volga Bridge in Volgograd, Russia' was organised by S. Mozalev, Chair of the Russian Group of IABSE.

Young Engineers Programme

Benefits for young engineers at this Symposium were jointly offered by the IABSE Fellows and the Symposium Organising Committee: Young Engineers enjoyed reduced registration fee and were offered free IABSE membership for the year 2011. The Award Jury represented by A. Chen, China, P. Collin, Sweden and R. Zandonini, Italy, conferred two prizes each of 2000 EUR, sponsored by IABSE Fellows to two young authors for their outstanding contributions:

Johan Berger, Austria: 'New Approach for Bridges with Very High Durability' and Xin Ruan, China: 'Failure Analysis of a Long Span Pre-stressed Concrete Box Girder Bridge'.



YEP Awardees Johan Berger, Austria and Xin Ruan, China

Technical Visits

On Friday a technical visit was organised to the moveable dams of 'MOSE', a defence system consisting of rows of concealed gates designed to stop high tides at the three lagoon inlets. On Saturday another technical excursion

to three structures: the fourth bridge over the Grand Canal in Venice, designed by Santiago di Calatrava; the Ponte Strallato di Marghera, a curved cable-stayed bridge linking the city of Mestre to Porto Marghera and to the 'Laguna Palace' glass roof: a complex constituted by a hotel building and a private dock.

Special Public Session

On Friday, September 24, after the Symposium a Special Session on 'Recent Large Earthquake and Seismic Risk Reduction with Reference to a Sustainable Development' was organised, and open for free to the Public.

Social Events and Sightseeing

On Wednesday, the Organising Committee welcomed all participants and accompanying persons to the beautiful Chiostro di San Nicoletto, dating to the origins of the independent Venice, in the early Middle Ages. Drinks and food and a wonderful soprano recital were enjoyed in a white decoration at candle-light. Later in the evening unexpected visitors interrupted the peaceful atmosphere and initiated what was later called the 'mosquito' dance, which many guests abandoned to continue with a nice dinner in Venice or to join the young engineers social event at the historical Nicelli Lido Airport for free drinks and music entertainment.

Prior to the Symposium Dinner on Thursday evening, a visit to either San Marco's Church with a magnificent organ concert or to the Scuola Grande di San Rocco were organised. The evening was continued with a fine six course menu at the beautiful Cà Giustinian Palace, the seat of the Biennale, located close to San Marco Square and overlooking the Grand Canal.

Social Tours

Symposium delegates and accompanying persons were offered various guided tours in Venice by foot or Gondola, outings to Murano, Burano, or longer excursions to cities such as Padova, Verona, Florence and Rome.



Welcome Reception at Chiostro di San Nicoletto



Members of the Organising Committee and Guests

Dhaka Conference 'Advances in Bridge Engineering-II'

Organised by the Bangladesh Group of IABSE and JSCE Steel Structures Committee, Japan

The Dhaka Conference on 'Advances in Bridge Engineering-II' held from August 8–10, 2010, was a great success. It was jointly organised by the new Bangladesh Group of IABSE and JSCE Steel Structures Committee, in Association with the Roads and Highways Department Government of Bangladesh and the Institution of Engineers, Bangladesh and co-organisers from the Bangladesh Sections of the American Society of Civil Engineers and Institution of Civil Engineers, UK. One of the major aspects of this conference was bringing major professional societies and bodies working in the region together to achieve an effective collaboration and partnership in future.

B.C. Roy, Vice-President of IABSE presented a message on behalf of IABSE President, Jacques Combault

at the Opening Ceremony, and two Honorable Ministers responsible for the Ministries of Communication, Science and Information Technology, Government of Bangladesh, attended the Conference Dinner and Closing Ceremonies of the conference. The presence of Muhammad Yunus, Nobel Laureate for Peace in the Conference Dinner inspired participants greatly. Experts, professionals and academicians from Asia, Europe, Australia and the North America discussed the issues of Bridge Engineering and its further development for the benefit of the people and community. The total number of registration to the conference was 338.

Six Keynote addresses were supported by 56 technical papers from 11 countries and four continents. Bridge engineering themes were on: History and Planning Materials; Analysis;

Design and Construction Design for Dynamic Forces; Geo-environmental Issues and Administration; Maintenance and Monitoring. Ref.: www.iabse-bd.org

Conference participants perceived the technological challenges that exist in Bangladesh for bridge construction and maintenance, but also recognised the necessity of having world class bridges in Bangladesh for the effective transportation not only within the country, but also within the Asian region. They identified the necessity of technology transfer, assimilation and formulation of a unified bridge code for the Asian countries in the coming years.

A volume with 594 pages has been published, for more information, please contact A.F.M. Saiful Amin: samin@ce.buet.ac.bd



Md. Yunus (right), Nobel Laureate for Peace. From left: H. Mutsuyoshi, Saitama Univ.; M. Nagai, Nagoaka Univ. of Tech. Japan; K. Wheeler, Maunsell AECOM



Left to right: M. A. Sobhan (Chair, Bangladesh IABSE Group); Md. Yunus (Nobel Laureate); A.F.M. Saiful Amin (General Secretary, Bangladesh IABSE Group)

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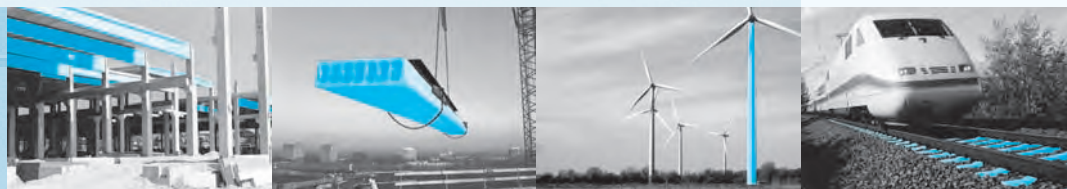


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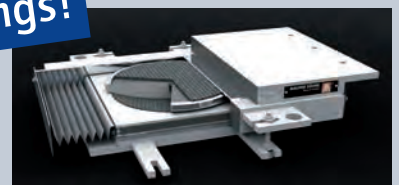
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