



# INTERNATIONAL JOINTS AND BEARING RESEARCH COUNCIL NEWSLETTER

NEWSLETTER #46

MARCH 2012

## CHAIRMAN'S NOTES

With the books closed on the 7th World Congress on Joints, Bearings and Seismic Systems it is time to reflect on the conference highlights from last fall's event.

Registrations totaled 154 which considering the economic times was not too bad. We were hoping for more attendees but most public agencies have a travel ban in effect and many engineering firms have similar policies in place.

We had a strong international contribution to the 7th World Congress with 27 different countries in attendance.

The Congress boasted an outstanding technical program with 51 excellent presentations covering a wide array of topics. Congratulations to Donatello Cardone from the University of Basilicata in Polenza, Italy along with co-authors Giuseppe Perrone, Beniamino D'Ercole and Domenico Nigro for receiving the outstanding technical paper award.

Our two keynote presentations also drew rave reviews from the congress participants. Many thanks go to Ted Zoli of HNTB and Dave Goodyear of T.Y. LIN for their much appreciated contributions to the congress.

From a financial standpoint the 7th World Congress was also a success. The revenue received will provide seed money for the 8th World Congress and will also fuel the IJBRC Scholarship Fund.

A special thanks goes out to the IJBRC Executive Committee who without their tireless efforts, the congress would not have been possible. I would like to personally thank Barrie Atkinson, Steve Pabst, Mark Kaczinski, Dave Stafford, Vince Kazakavich and Carl Thompson. A very special thanks goes to Lesley Braun for her dedication to the IJBRC.

Lastly I would like to issue a special remembrance to the 3 individuals to which the congress was dedicated. Stewart Watson, Frank Braun and Peter Smith were long time IJBRC Executive Committee Members whose contributions to the field of joints, bearings and seismic systems will long be remembered.

Respectfully Submitted  
Ronald J. Watson  
IJBRC Chair



**Delegates in session at the 7<sup>th</sup> World Congress**



**Vicki Rogers and Melinda Reynolds, Registration Staff from ACI**

## **IJBRC World Congress Best Paper Award**

A highlight of the recently held 7<sup>th</sup> World Congress on Expansion Joints, Bearings and Seismic Systems is the presentation of the Outstanding Technical Paper at the Tuesday evening Awards Banquet. Selection of the winning paper was difficult because of the high quality of the 51 papers presented at the Congress and this task fell upon the Technical Review Committee of Timothy Delis (Caltrans), Ralph Dornsife (Washington State DOT), Theodore Hopwood (Kentucky Transportation Cabinet), and Carl Thompson (University of Waterloo).

The title of the Outstanding Technical Paper is “Experimental Evaluation of the Critical Load of Slender Elastomeric Seismic Isolators” and the primary author is Donatello Cardone. The committee selected this paper because they felt the research findings should open the door for expanded use of these economical seismic isolation systems and therefore reduce structural damage and fatalities in under developed areas around the world. Dr. Cardone is an Assistant Professor of Earthquake Engineering at the University of Basilicata in Polenza, Italy. Other co-authors from the University of Basilicata include Giuseppe Perrone, Beniamino D’Ercole and Domenico Nigro. An abstract of the paper is presented below.

### **Abstract:**

One of the most important aspects of the seismic response of elastomeric isolators is their stability under high shear strains. The bearing capacity of elastomeric isolators, indeed, progressively reduces while increasing horizontal displacement. This may greatly influence the design of elastomeric isolators, especially in high seismicity regions, where slender elastomeric isolators subjected to large horizontal displacements are a common practice. In the current design approach the critical load is evaluated based on the Haringx theory, modified to account for large shear strains by approximate correction factors.

In this paper the critical behavior of a pair of slender elastomeric devices is experimentally evaluated at different strain amplitudes, ranging from 50% to 150%. The experimental results are then compared to the predictions of a number of semi-empirical and theoretical formulations. Based on the results of this study, the current design approaches are conservative as they underestimate the critical load, regardless the displacement amplitude.

\* To read this paper in full format, see the ad for purchasing the 7<sup>th</sup> World Congress CD



**Mr. and Mrs.  
David Goodyear  
(Awards Banquet  
Speaker) with  
Ron Watson,  
Chairman of  
IJBRC at the  
Opening  
Reception of the  
7<sup>th</sup> World  
Congress**



**IJBRC  
Chairman,  
Ron Watson  
greeting  
delegates  
and guests  
to the  
Awards  
Banquet at  
the 7<sup>th</sup>  
World  
Congress**



## ASTM MINUTES

SUBCOMMITTEE D04. 34 Preformed Joint Fillers, Sealers and Sealing Systems

DATE: Thursday, December 8, 2011

LOCATION: Marriott Waterside  
Tampa, Florida

TIME: 8:30 a.m.

Following roll call and approval of the minutes from the Anaheim meeting the following action items were discussed:

- Items 13 of the D04 (11-02) ballot was the New Standard Specification for Preformed Silicone Joint Sealing Systems for Bridges. There were 2 negatives and 3 affirmatives with comment. The items of contention were deemed significant enough that a reworking of the specification is in order. The subcommittee will address the comments and re-ballot.
- The following documents have been reviewed by the subcommittee and will go to ballot for re-approval:
  - ♣ D 2835-1989 (2007) Standard Specification for Lubricant for Installation of Preformed Compression Seals in Concrete Pavements
  - ♣ D 5973-97 (2007) Standard Specification for Elastomeric Strip Seals with Steel Locking Edge Rails Used in Expansion Joint Sealing
  - ♣ D 6924-03 (2007) Standard Specification for Preformed Thermoplastic Vulcanizate Elastomeric Joint Seals for Bridges
- The next meeting will be held on Thursday June 28<sup>th</sup>, 2012 at the Sheraton San Diego Hotel and Marina.
- The meeting adjourned at 8:55 a.m.



## ASTM MINUTES

SUBCOMMITTEE: D04. 32 Bridges and Structures  
DATE: Thursday, December 8, 2011  
LOCATION: Marriott Waterside  
Tampa, Florida  
TIME: 8:00 a.m.

Following roll call and approval of the minutes from the Anaheim meeting the following action items were discussed.

- On the D04 (11-02) Ballot there were two items pertaining to Subcommittee D04.32. The first was Item 10 the re-approval of D 3633 Test Method for Electrical Resistivity of Membrane-Pavement Systems. There were 104 affirmative, 1 negative and 161 abstention ballots cast. The negative was cast by Rebecca McDaniel who stated that the standard does not comply with D04 guidance on units. The subcommittee agreed with Rebecca and decided to drop the inch pound units in order to comply.
- Item 11 of the D04 (11-02) ballot was the re-approval of D 4071 practice for use of Portland Cement Concrete Bridge Deck Water Barrier Membrane Systems. This received 107 affirmative, 0 negative and 159 abstention ballots.
- Regarding D 4788-2003 (2007) Test Method for Detecting Delaminations in Bridge Decks Using Infrared Thermography an email was received from Jay Ruohonen citing that the IR camera technology mentioned in the current document is obsolete. He provided a corrected version of the test method but did not red line the changes. Sub chair Ron Watson will contact Mr. Ruohonen to request the red line version so the subcommittee can easily review the recommended changes.
- Richard Lee of DSA attended the meeting and has some recommended changes to D 6297-2001 (2007) Specification for asphaltic plug joints for bridges. He is going to red line the document and submit it to the subcommittee for review.
- The following documents are up for re-approval and will be balloted prior to the next meeting:
  - ♣ D 3963 Specification for Fabrication and Jobsite Handling of Epoxy-Coated Steel Reinforcing Bars
  - ♣ D 4014 Specification for Plain and Steel-Laminated Elastomeric Bearings For Bridges
  - ♣ D 4580 Practice for Measuring Delaminations in Concrete Bridge Decks by Sounding
  - ♣ D 5977 Specifications for High Load Rotational Spherical Bearings for Bridges and Structures
  - ♣ D 6153 Specification for Materials for Bridge Deck Waterproofing Membrane Systems
- The next meeting will be held on Thursday June 28, 2012 at the Sheraton San Diego Hotel and Marina.
- The meeting adjourned at 8:30 a.m.

# 8<sup>th</sup> World Congress

The Executive Committee welcomes submissions by interested groups to host the 8<sup>th</sup> World Congress on Joints, Bearings and Seismic Systems for Concrete Structures to be held September/October 2016.

To be considered, the proposals should include the following:

1. **Location** – The city, town or region where it is proposed to hold the Congress including information on possible hotels available with meeting and exhibit rooms and tariff.
2. **Dates** - Dates around September/October 2016 are preferred.
3. **Organizing Group** – This should be a national, non-profit organization. Names and a brief resume of the individuals comprising the proposed steering committee should be included.
4. **Budget** – A pro-forma budget must be submitted which will address all items of anticipated income and expense. The budget should be presented in U.S. dollars. Any seed money requested from IJBRC must be shown.
5. **Schedule** – This should include target dates for printing/distribution of initial announcements, call-for-papers, deadline dates for abstracts and completed papers for review.

IJBRC will also require reports on the organizational progress of the Congress relating to publicity, exhibits, speaker arrangements, hotel commitments, etc. quarterly up to 6 months before the Congress and then monthly through to the opening date.

Please submit proposals in 8 copies, in English, on or before **September 30, 2012 to the IJBRC Chairman, Ron Watson.**



Dave Stafford, Lesley Braun and Vince Kazakavich at the Opening Reception of the 7<sup>th</sup> World Congress



Delegates visiting the Exhibitors' Hall at the 7<sup>th</sup> World Congress

## FOR SALE

The 7<sup>th</sup> World Congress on Joints, Bearings and Seismic Devices for Concrete Structures Proceedings  
CD – ROM      Cost - \$50.00 U.S.

Available through the IJBRC Secretary  
([lfbraun@golden.net](mailto:lfbraun@golden.net))

## **Canadian Federal Government Agrees to Major New Bridge across the St. Lawrence River**

(Montreal) In the face of growing concerns over the condition of the busy Champlain Bridge in Montreal, the federal government has announced that it will build a new bridge across the St. Lawrence River.

The Honourable Denis Lebel, Minister of Transport, announced the plans on October 5, 2011, saying that the government had reviewed pre-feasibility and assessment studies and concluded that a new bridge is necessary in Montreal.

Over the coming months the government is going to be examining the creation of a public-private partnership to build the bridge and the use of tolls to finance it.

Until then, Lebel promised to ensure that the Champlain Bridge remains safe. The government announced \$380-million in funding to maintain the bridge since 2009. The repair work is ongoing.

The six-lane Champlain Bridge is the busiest vehicular bridge in Canada, carrying an estimated 11 million public transit commuter, 60 million vehicles and \$20 billion in international trade annually. Completed in 1962, the crossing is 6-kilometres in total, connecting Montreal by Nun's Island to the South Shore. It consists of a main cantilever structural truss section and two prestressed concrete approach sections.

In March 2011, consulting engineers Delcan provided a report "The Future of the Champlain Bridge" to Jacques Cartier and Champlain Bridges Incorporated, a federal agency. In the executive summary Delcan said their "impression" of this lifeline bridge was that it "has many deficiencies, some of which are very significant..."

The CBC reported that the new bridge could cost \$5 billion. It ran a poll that showed 70% of the respondents believed tolls should be used to pay for the cost.

Source: Canadian Consulting Engineer 2011-10-17

### **STEWART C. WATSON SCHOLARSHIP**

Sponsored by IJBRC/American Concrete Institute

#### **Award Information**

**Amount of Scholarship:** Maximum \$3,000 US

**Application Deadline:** January 15th annually

**Requirements:** Applicant must have a bachelor's degree by the summer of the application year, have a special interest in joints, bearings or seismic devices for concrete structures and be proficient in English. The applicant must be accepted full-time for the first or second year of graduate study at an accredited engineering school.

**Eligibility:** Master's level study.

To apply for this scholarship, log on to the American Concrete Institute website [www.concrete.org](http://www.concrete.org) under Honors and Awards.

# Upcoming ACI Conventions

The following is a list of scheduled ACI conventions:

**2012 - March 15-27**  
**Hyatt Regency**  
**Dallas, TX**

**2012 - October 21-25**  
**Sheraton Centre,**  
**Toronto, ON**

**2013- April 14-17**  
**Hilton and Convention Centre**  
**Minneapolis, MN**

**2013 -October 20-24**  
**Hyatt & Phoenix Convention Centre**  
**Phoenix, AZ**

**For additional information, contact:**

Event Services, ACI P. O. Box 9094  
Farmington Hills, MI 48333-9094

Telephone (248) 848-3795 \* Email: [conventions@concrete.org](mailto:conventions@concrete.org)

## Mailing Address

Please check your address label for accuracy. If changes are required, please notify the IJBRC Secretary by fax or email.

**Fax 1-519-894-9169**

Email [lfbraun@golden.net](mailto:lfbraun@golden.net)

### NEWSLETTER ARTICLES WANTED

Your IJBRC Executive continues to solicit articles of interest for inclusion in future editions of the IJBRC Newsletter. The semi-annual newsletter is our best way of keeping in contact with our membership. Submissions need to be on the topics of joints, bearings and seismic devices for concrete structures. They may include, but not be restricted to: book reviews, summaries of research in progress or completed, announcements of research grants received by individuals or groups, events or news items pertaining to joints, bearings and seismic devices, congratulations or bereavement notices.

Please forward such items of interest to the IJBRC Secretary by email; [lfbraun@golden.net](mailto:lfbraun@golden.net) or fax 1-519-894-9169  
Individual articles included in this newsletter are the opinions of said author(s)

### INTERNATIONAL JOINTS AND BEARINGS RESEARCH COUNCIL

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