
AGENDA

2006 CABLE STAY BRIDGE WORKSHOP

April 25 - 27, 2006

St. Louis, MO



Tuesday—April 25, 2006

10:00 am-1:00 pm **Registration**

SESSION I (Dorset Room):

Moderator - Pete Clogston, FHWA-Missouri

1:00-1:15

Welcome

Ghanshyam Gupta, Missouri Dept. of Transportation

Allen Masuda, FHWA-Missouri

1:15-2:05

Review of Bridge Cable Vibrations in Japan

The Practical Cases of Aerodynamic Vibration of Stayed Cables

Masaru Matsumoto, Kyoto University

2:05-2:30

Review of Bridge Cable Vibrations Within the USA

Harold Bosch, FHWA-TFHRC

2:30-3:00

Break - Vendor Exhibits (Canterbury Room)

3:00-3:30

Overview of Research Program Under SPR-3(078)

Paul Liles, Georgia Dept. of Transportation

Harold Bosch, FHWA-TFHRC

3:30-4:15

Recent Wind Tunnel Testing (Canada)

Recent Wind Tunnel Experiments in Canada on Inclined and Yawed Stay Cables

Shaohong Cheng, University of Windsor

Guy L. Larose, NRC-CNRC

4:15-5:00

Recent Wind Tunnel Testing (USA)

Wind Tunnel Model Studies to Investigate Stay Cable Vibration and Its Mitigation

Partha P. Sarkar, Iowa State University

5:00

Adjourn Day One

5:30-7:30

Welcome Reception (Canterbury Room)

Sponsored by: Dywidag-Systems International USA, HNTB, Modjeski and Masters, Parsons Brinkerhoff, Taylor Devices, and VSL

Wednesday—April 26, 2006

7:00-8:00 am **Continental Breakfast / Exhibits Open** (Canterbury Room)

SESSION II (Dorset Room):

Moderator - Hossein Ghara, Louisiana Dept. of Transportation and Development

8:00-9:30 **Mechanics of Wind & Rain/Wind Induced Cable Vibrations**
Understanding the Mechanism of Rain-Wind-Induced Vibrations in the Context of Dry Cable Vibrations Observed in the Field and in the Wind Tunnel
Delong Zuo, Johns Hopkins University

The Generation Mechanism of Inclined Cable Aerodynamics Rain-Wind Induced Vibration and Dry-State Galloping
Masaru Matsumoto, Kyoto University

9:30-10:00 **Parametric Excitation of Cables**
Deck-Induced Stay Cable Vibrations: Field Observations and Analytical Model
Nicholas P. Jones, Johns Hopkins University

10:00-10:30 **Break - Vendor Exhibits** (Canterbury Room)

10:30—12:00 **Mitigation Methods & Design Issues (Part I)**
Various Surface Treatments Applied on Cables to Reduce RWIV
Olivier Flamand, CTSB

Vibration Mitigation Through Cross-Ties Between Cables: Analysis & Design Experience
Luca Caracoglia, Northwestern University
Steven T. Hague, HNTB

Influence of Cross-Tie Geometry and Details on Mitigation of Wind-Induced Vibrations
Sunwoo Park, FHWA-TFHRC

12:00-1:00 **Lunch** (Kent Room)

Wednesday—April 26, 2006

SESSION III (Dorset Room):

Moderator - Tom Domagalski, Illinois Dept. of Transportation

- 1:00-2:30 **Mitigation Methods & Design Issues (Part II)**
Damping of Stay-Cable Vibrations: Modeling Overview and Design Implications
Nicholas P. Jones, Johns Hopkins University
- Experience with Visco-Elastic and Hydraulic Dampers for Stay Cables
J. Peter C. King, BLWTL-University of Western Ontario
- Analysis and Design of Vibration-Suppressing Systems
Stoyan Stoyanoff, RWDI
Peter A. Irwin, RWDI
- Effectiveness of Using Dampers on Cables and Cross-Ties Between Cables
Sunwoo Park, FHWA-TFHRC
- 2:30-3:00 **Break - Vendor Exhibits** (Canterbury Room)
- 3:00-4:00 **Design Guideline Documents**
PTI Guidelines for Design and Installation of Stay Cables
David Goodyear, T.Y. Lin International
- Development of a Guidelines Document for Aerodynamic Design of Stay Cables
J. Jerry Shen, FHWA-TFHRC
- 4:00-4:20 **Maintenance and Inspection of Bridge Stay Cable Systems**
Habib Tabatabai, University of Wisconsin-Milwaukee
- 4:20-5:00 **Maintenance and Inspection: Recent Experience**
Structural Evaluation of Stay Cables of the Luling Bridge
Armin B. Mehrabi, CTL
Hossein Ghara, Louisiana Dept. of Transportation and Development
- Wind Induced Vibration of the Talmadge Memorial Bridge
Paul G. Norton, Lichtenstein Consulting Engineers
- 5:00 **Adjourn Day Two**

Thursday- April 27, 2006

7:00-8:00 am **Breakfast Buffet** (Kent Room)
Exhibits Open (Canterbury Room)

SESSION IV (Dorset Room):

Moderator - Paul Liles, Georgia Dept. of Transportation

8:00-9:00 **Recent Experience: Retrofits**
Texas Experience and Retrofits for Stay-Cable Vibrations
Keith Ramsey, Texas Dept. of Transportation

Lessons Learned in West Virginia About Wind-Induced Vibration of Two
Cable-Stayed Bridges
Ahmed N.K. Mongi, West Virginia Dept. of Transportation

9:00-10:00 **Recent Experience: New Designs**
Rain-Wind Vibration: Different Approaches at Different Locations
Ruchu Hsu, Parsons Brinkerhoff
Mike Abrahams, Parsons Brinkerhoff

Application of Aerodynamic Design Guidelines to Recent Cable Stay
Bridges
Andreas Felber, Buckland & Taylor Ltd.

10:00-10:30 **Break - Vendor Exhibits** (Canterbury Room)

10:30-11:30 **Innovative Dampers and Other Techniques**
New Developments in Cable Stay Vibration Suppression
Andrew Micklus, Jr., Freyssinet LLC

Development of a MR Fluid Based Tuned Mass Damper for Cable Vibration
Control
W.J. Wu, Louisiana State University

11:30-12:00 **Workshop Discussion and Wrap Up**

12:00 **Adjourn**

12:15-1:45 **Technical Advisory Committee-Business Meeting**
(lunch provided)