



# CENTER FOR INFRASTRUCTURE ENGINEERING STUDIES

## **NDE Conference on Civil Engineering**

*A joint conference of the 7th Structural Materials  
Technology Conference (SMT) and the 6th  
International Symposium on Nondestructive Testing  
in Civil Engineering (NDT-CE)*

By

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**University Transportation Center Program  
at the University of Missouri-Rolla**

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16. Abstract The 2006 NDE conference on Civil Engineering was held in St. Louis, MO on August 14 – 18, 2006. The conference combined the 7th Structural Materials Technology Conference (SMT) along with the 6th International Symposium on Nondestructive Testing in Civil Engineering (NDT-CE) to provide a program with a full range of topical interests, from case studies of nondestructive evaluation (NDE) applications to advanced theoretical research. The conference chairs were Dr. Imad Al Qadi, University of Illinois Urbana-Champaign and Glenn Washer, University of Missouri.			
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# **Final Report**

**NDE Conference on Civil Engineering**  
*A joint conference of the 7<sup>th</sup> Structural Materials Technology*  
**Conference (SMT) and the 6th International Symposium on**  
**Nondestructive Testing in Civil Engineering (NDT-CE)**

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**Final Report: NDE Conference on Civil Engineering  
A joint conference of the 7<sup>th</sup> Structural Materials Technology  
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Nondestructive Testing in Civil Engineering (NDT-CE)**

The 2006 NDE conference on Civil Engineering was held in St. Louis, MO on August 14 – 18, 2006. The conference combined the 7<sup>th</sup> Structural Materials Technology Conference (SMT) along with the 6<sup>th</sup> International Symposium on Nondestructive Testing in Civil Engineering (NDT-CE) to provide a program with a full range of topical interests, from case studies of nondestructive evaluation (NDE) applications to advanced theoretical research. The conference chairs were Dr. Imad Al Qadi, University of Illinois Urbana-Champaign and Glenn Washer, University of Missouri.

The University Transportation Center, University of Missouri-Rolla was a co-sponsor and the conference and helped support conference participation of State bridge inspectors and maintenance personnel from across the country. Joining with Missouri Department of Transportation and the Federal Highway Administration, conference support enabled a State bridge inspection and management personnel to attend the conference and learn about the newest NDE technologies and research from around the world. This included attendees from Missouri, Texas, Florida, Kentucky, South Carolina, California, Virginia, and New York State Departments of Transportation.

The conference was organized into two technical tracks; Track I was the SMT track and included case histories, field measurements, and technology implementation related to NDE for highways, bridges and other civil structures. Track II was an international track that focused on technology development, advanced research, and theoretical investigation and modeling for NDE of civil structures.

The conference enjoyed a keynote address from John Bungey, Emeritus Professor of Civil Engineering, University of Liverpool. His talk was entitled “35 Years of NDE of Concrete – A UK Perspective” reviewed technologies available for the NDT of concrete and how these technologies have advanced within the United States and in Europe in the past 35 years. Dr. Bungey is a renowned researcher in the field of NDT methods for concrete and has published several books on the topic.

The conference also featured panel discussion sessions that were well attended. One session entitled “Structural Health Monitoring for Enhancing Bridge Security,” was chaired by Dr. Sreenivas Alampali, New York State Department of Transportation (NYSDOT). This session featured 3 topical presentations and a panel discussion with presenter and audience participation. The session focused on the use of structural health monitoring for enhancing bridge security. The session included presentations by Hamid Ghasemi of the Federal Highway Administration (FHWA) and Harry Capers, recently retired State Bridge Engineer from New Jersey. Discussions centered on methods and approaches to identifying at-risk bridges, protective measures and the potential role of health monitoring technologies.

A second discussion session focused on issues for bridge inspection practices and State inspection programs. The session featured a presentation on the bridge inspection practices in the State of New York. Carl Callahan, State Bridge Maintenance Engineer in Missouri, chaired the session. Discussions centered on variations between State DOT's practices and programs for the inspection of highway bridges. The effectiveness of various inspection practices and policies was also discussed.

The conference proceedings includes 67 papers from around the world addressing the nondestructive testing of civil infrastructure. Authors from 14 different countries submitted papers that appear in the proceeding, and the international nature of the program brought some fresh perspectives and opportunities for international collaborations. A special topical session was held during the conference entitled "Bridge NDE Research in Missouri" that featured presentations by Dr John Myers and Dr. Genda Chen of UMR.

More than 120 conference attendees experienced many opportunities to collaborate and discuss their activities, including a banquet that was highly attended by conference participants. The conference setting in downtown St. Louis was appreciated by the conference attendees, many of whom enjoyed an opportunity to visit the new baseball stadium and see a Cardinals game.

### **Conference Proceeding**

Technical papers from the conference were published by ASNT in a proceeding that was available on-site for participants or can be obtained from ASNT. The reference for the proceeding is:

"NDE Conference on Civil Engineering," American Society for Nondestructive Evaluation, Columbus, OH. Eds. Imad Al-Qadi & Glenn Washer, August, 2006.

The conference proceeding are available in print or electronic version.

### **Photos from the conference**

The following are photos from the conference showing activities during the week. The conference program included an exhibition hall where vendors of NDE technologies and services could display their products and services. Lunches for conference participants were hosted in the exhibition hall on several days, as well as an icebreaker reception on the opening day of the conference. A mid-week banquet allowed for conference attendees to interact in an informal setting.



Figure 1. Keynote Speaker John Bungey presented a historical perspective on the development of NDE for concrete.



Figure 2. Keynote Speaker John Bungey received a commemorative plaque from Symposium Co-Chair Imad Al-Qadi, University of Illinois.





Figure 3. Symposium co-chair Glenn Washer (U. of Missouri), Keith Ramsey (TXDOT), keynote speaker John Bungey (U. of Liverpool) and Herbert Wiggenger (Bureau of Materials, Berlin, Germany) enjoy community building activities.



Figure 4. A exhibition area at the conference provided an opportunity for attendees to meet and interact with vendors that supply equipment and services for the NDE of civil structures.





Figure 5. A mid-week banquet provided an opportunity for conference attendees to interact and exchange ideas and experiences.