



INTERNATIONAL SOCIETY FOR STRUCTURAL HEALTH MONITORING OF INTELLIGENT INFRASTRUCTURE

## September 2011 ISHMII Membership Notes

### President's Letter



Dear Colleagues,

As civil engineers, those of us in the US are aware that our Federal government requires bridges to be inspected visually every two years. These observations and recommendations rely on the experience and skill of the inspector who often uses no equipment or only minimal non-invasive testing to determine the health of the bridge. More often than not, this means that there is no quantitative data collected to support the assessment.



### Council Member Pradipta Banerji Appointed President of IIT Roorkee



Dr. Pradipta Banerji, Professor of Structural Engineering in the Department of Civil Engineering at Indian Institute of Technology Bombay, will assume responsibilities as the President of the Indian Institute of Technology at Roorkee in India in mid-October 2011 for an initial term of 5 years. This is the oldest technological university in India, with its inception in 1847 as Thomson College of Engineering and then as University of Roorkee. It became formally an IIT in 2000 by an Act of Parliament.

Dr. Banerji has been a Council member of the International Society for Health Monitoring of Intelligent Infrastructure, since the inception of ISHMII in 2004.

Please join us in celebrating this accomplishment by conveying your congratulations to Dr. Banerji at [pbanerji@civil.iitb.ac.in](mailto:pbanerji@civil.iitb.ac.in).

### *Skilled Visual Inspections*

For three decades, civil engineers have pushed government agencies to establish stronger standards for testing bridges that reach beyond visual testing, use SHM methodologies that include advanced nondestructive testing, and install sensors for continuous real time monitoring of bridges that require such efforts. Our inspiration was and continues to be the rigorous aircraft inspections carried out across the aeronautical industry by the Federal Aviation Agency (FAA). We acknowledge that our field has adopted its goals based on the example of the aeronautical industry where frequent, detailed, non-destructive testing is the normative expectation and provides quantitative information essential to the health of the industry and the safety of everyone who flies.



*Routine Aviation Inspections Insure Flight Safety*

It is an important aspect of CSHM that we assure the safety of bridges, collect quantitative data to establish a health record and use and promote methods of monitoring operations that reduce the life-cycle costs associated with the maintenance of bridges.

When accidents or structural failures occur in civil transportation, the National Transportation Safety Board (NTSB) takes probative or investigative control. NTSB chair Deborah Hersman recently called attention to lapses in the otherwise stringent safety system across agency jurisdictions. Several incidences, exemplified by the midair rupture of a fuselage on a major airliner earlier this year and structural problems with the wings of a small, popular hand-built aircraft, have brought the NTSB to a turning point. Now, the NTSB plans to become proactive in the way in which it assesses hazards and structural failures that are rooted in

## Conferences and Workshops

### **SHMII-5 Conference Cancun, Mexico December 11-15, 2011**



**Please make your plans to participate in the  
5th International Conference on Structural  
Health Monitoring of Intelligent  
Infrastructure (SHMII-5)**

SHMII-5 will provide a unique opportunity for scientists, practitioners and enterprises from around the world and from a broad range of disciplines to share and discuss the latest knowledge and SHM technologies. Sessions will address smart sensors, wireless sensor networks, signal acquisition and processing, and real-time data transferring and management, as well as many more topics.

SHMII-5 is organized and hosted by Chair Sergio M. Alcocer, Institute of Engineering, National Autonomous University of Mexico (UNAM), Co-Chairs Francisco Carrión, Mexican Institute of Transportation and Roberto Gómez-Martínez (UNAM), and Head of the International Steering Committee Alexis Méndez, MCH Engineering LLC, USA.

The conference will be held at the Ritz-Carlton, Cancun. Details on reservations and rates appear on the Conference Web site at [Venue](http://www.shmii.unam.mx/Default.html).

**Information on registration for SHMII-5,  
sessions, papers, and visiting Mexico is  
available at  
[www.shmii.unam.mx/Default.html](http://www.shmii.unam.mx/Default.html).**

aircraft defects.

This moves the NTSB out of its usual role, where it reconstructs accidents or structural failures to find the probable cause, into an examination of what it calls “dangerous trends and safety lapses.” In addition to its core mission, the NTSB will specifically examine the structural and maintenance issues that cover the lifetime of an aircraft, and thus the industry, from design through de-commission.



*Timber Bridge Inspection - Washington State*

As civil engineers who promote advances in inspection methods, we find it interesting that the NTSB will look for ways by which to locate safety issues before an accident happens. As this review progresses to consider the inspection methods and programs, it will likely also endorse the continuation of FAA programs that already require enhanced structural inspections of older planes in the overall aging fleet.

When ISHMII was formed, we tried to learn from the model mandatory testing within the aeronautics industry. The examination of transportation structural failure is a dynamic area and SHM is an active area of research among engineers in the aeronautical fields. So, it is important for us to realize that modification of regulations and vigilance remains a current topic in that industry. If I assume that the testing applied in the aeronautics industry still represents the highest standards, I wonder if there are other countries where the government asks bridge owners to submit to as rigid a set of standards as it does aeronautics or any other industry where safety is utmost importance. I invite you to let me know how you would compare civil structural health monitoring (CSHM) and that of other industries in your country.



## **CSHM-4 Workshop**

### ***Integrity of SHM Systems for Deficient Structures***

**November 6-8, 2012 - Berlin, Germany**

The 2012 Civil Structural Health Monitoring Workshop (**CSHM-4**) will be held at the Bundesanstalt für Materialforschung und -prüfung (BAM), the Federal Institute for Materials Research and Testing.

Wolfgang R. Habel, Ph.D., the organizer, will announce details of the workshop in December 2011. For additional information contact [Wolfgang.habel@bam.de](mailto:Wolfgang.habel@bam.de).

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## **We Are ISHMII**

The ***International Society for Structural Health Monitoring of Intelligent Infrastructure*** (**ISHMII**) is a professional society comprised of practitioners, infrastructure owners and managers, government agencies, associations, academics, and students.

**Farhad Ansari**  
President

[fansari@uic.edu](mailto:fansari@uic.edu)

### ***Are YOU an ISHMII Member?***

**Please join ISHMII as an individual, corporate or student member and share our mission of building knowledge about Structural Health Monitoring.**

**Individual membership is \$100  
Corporate membership is \$250 for four individuals  
Students receive a free membership with verification of student status**

**ISHMII is now accepting membership renewals for 2012.  
[Renew](#) or [Join](#) On-Line**



***We acknowledge these sites for their photographs.***

*Skilled Visual Inspections: Cobbengr.com  
Routine Aviation Inspections: Transportation Safety Authority (TSA)  
Timber Bridge Inspection - Washington State: Kingcounty.gov*



Members seek to enhance the long-term stability and reliability of public works structures and prolong their service through monitoring processes.

Our Web site contains information that advances and shares our knowledge of structural health monitoring.

The [\*ISHMII Knowledge & Education Center\*](#) contains pages of interest including Thesis' & Dissertations, Case Studies, Proceedings & Literature, and Education & References.



We publish the [\*Journal of Civil Structural Health Monitoring\*](#). Submit your paper to the [JCSHM Editorial Manager](#).

Twice a year, we publish [\*The Monitor\*](#), an e-Newsletter covering important CSHM topics from contributors around the world, book reviews and introductions to case studies and research. Expect the next issue in November 2011.

Read the [July 2011 issue of The Monitor](#).

Contributions for *The Monitor*, photos and material for the ISHMII Web site should be sent to Nancy Cohen at [NancyC@ishmii.org](mailto:NancyC@ishmii.org).

Visit our Web site for information about upcoming [conferences and workshops](#).

**Find us at [ISHMII.org](http://ISHMII.org)**

