THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
土木及環境工程學系
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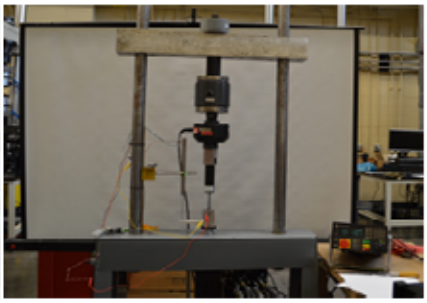
National Rail Transit Electrification and Automation Engineering Technology Research Center (Hong Kong Branch)
國家軌道交通電氣化與自動化工程技術研究中心(香港分中心)


Seminar on
Real-Time Model Updating Techniques for Nonlinear Structural Systems and Damping Devices

Dr. Wei Song, Associate Professor

Department of Civil, Construction, and Environmental Engineering,
The University of Alabama, Tuscaloosa, USA

ABSTRACT

Dynamic model updating is a technique to provide accurate numerical/mathematical models by using collected dynamic input/output information. The updating of nonlinear dynamic models, such as for structures subjected to extreme load events and for damping systems, is a particularly challenging problem. This presentation explains the development of a real-time model updating platform and demonstrates its successful applications in both nonlinear structural system and damping system. Then, a recently developed framework of a joint-input-state estimation technique is introduced. This technique not only can provide accurate dynamic models but also the optimal estimation on the corresponding inputs. This presentation also includes the use of imagery data for condition assessment research.

Date: 12 December 2018 (Wednesday)

Time: 3:00-4:30pm

Venue: V303, PolyU

SPEAKER'S BIOGRAPHY

Dr. Wei Song is currently an Associate Professor at the Department of Civil, Construction, and Environmental Engineering at The University of Alabama in the United States. He received both B.S. and M.S. from Tongji University, China, and Ph.D. from Purdue University, USA. His research is focused mainly on structural dynamics related topics, including structural health monitoring, damping technology, and dynamic testing. He has extensive experience with various types of sensors, dynamic actuators, data acquisition systems, and dynamic testing platforms. His research subjects include highway bridges (steel and prestressed concrete) and building systems with auxiliary damping devices. Prof. Song is a current member of several technical committees in ASCE Engineering Mechanics Institute (EMI) and Structural Engineering Institute (SEI).

***** All Interested Are Welcome *****

For further information, please contact Miss Autumn Lin at Tel. 3400 8535.

Certificates of attendance will be provided to participants if they attend the whole lecture.