University at Buffalo
Institute of Bridge Engineering
School of Engineering and Applied Sciences

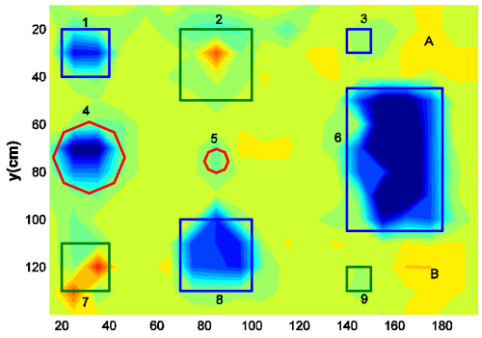
ENGINEERING SEMINAR

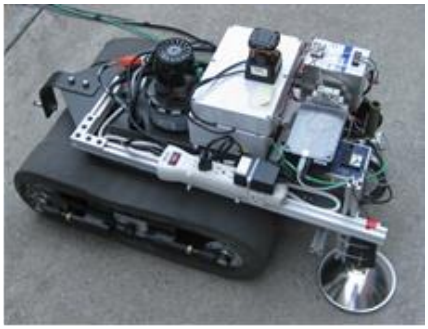
Non-contact Air-coupled Sensing for Rapid Evaluation of Bridge Decks

Abstract

Elastic wave-based non-destructive testing (NDT) methods are commonly used for evaluation of civil engineering infrastructure, including bridges, dams and buildings. However, most of these methods require coupling (direct contact) between sensors and the test surface, which significantly restricts the testing speed and consistency, especially for large-scale concrete structures in civil engineering.

The air-coupled sensing technology was developed by Dr. Jinying Zhu as a solution for rapid scanning of concrete infrastructure. In this lecture, Dr. Zhu will review the development of air-coupled sensing technique for civil engineering applications, including fundamental theory and application of air-coupled sensing on concrete structures. She will also present a recently developed automated acoustic scanning system for quick bridge deck evaluation and imaging.





Jinying Zhu
University of Nebraska-Lincoln

Dr. Jinying Zhu is an assistant professor in Department of Civil Engineering at the University of Nebraska Lincoln. She received her PhD degree in Civil Engineering from the University of Illinois at Urbana-Champaign in 2006. Her research interests include NDT for concrete, wave propagation, cement material characterization using ultrasonic waves, and innovative sensing techniques. Dr. Zhu is a recipient of the ASNT Fellowship Award in 2012, and three times winner of ACI-James Instruments Award. She is an associate editor of *Journal of Nondestructive Evaluation*.

Date: October 16, 2017 Time: 5:00 p.m. – 6:30 pm, EDT
Location: 200G Baldy Hall, North Campus, University at Buffalo