9:00AM, 8 Jan (Thursday), 2015
Multi-Function Hall, First Floor
College of Civil Engineering
Fuzhou University, Fuzhou, Fujian (PRC)

Part 1: An overview of the University of Illinois and the College of Engineering at Urbana-Champaign
Part 2: Targeted Energy Transfer: Intentional Use of Strong Nonlinearity for Vibration and Shock Control

Professor Lawrence A. Bergman

Professor Lawrence A. Bergman received the B.S. in Mechanical Engineering from the Stevens Institute of Technology, and the M.S. in Civil Engineering and Ph.D. in Applied Mechanics from Case Western Reserve University. His research is primarily in the areas of structural dynamics and control, nonlinear dynamics, applied stochastic processes, system identification, and computational methods. He is the author of more than 200 articles in archival journals and books, has co-authored one research monograph, edited or co-edited 6 books, and holds 5 United States patents.

Topics

Part 1: **An overview of the University of Illinois and the College of Engineering at Urbana-Champaign**

Abstract: Prof Lawrence A. Bergman will present a brief history of the University of Illinois system and of the Urbana-Champaign campus in particular. He will follow that with an informal presentation about the College of Engineering at UIUC, focusing on recent growth, research accomplishments, teaching initiatives, and future directions. At the conclusion, Prof Bergman will be happy to answer questions.

Part 2: **Targeted Energy Transfer: Intentional Use of Strong Nonlinearity for Vibration and Shock Control**

Abstract: For the past fifteen years, our research group has been developing and applying the concept of Targeted Energy Transfer (TET) as an effective strategy for passively managing energy flow in dynamical systems subject to broadband transient loading. The technology has been studied analytically, computationally, and experimentally in applications covering a range of scales from nano to macro. I will explain the principles underlying TET, followed by a short summary of some ongoing applications and a more in-depth presentation of results focused on aeroelastic flutter suppression and blast protection of large-scale structures.

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