2009-2010

Graduate Seminar Series

The Department of Mechanical Engineering – Engineering Mechanics

Proudly Presents

Professor James De Clerck
Michigan Technological University

Dr. James De Clerck is a Professor of Practice in the Mechanical Engineering – Engineering Mechanics Department at Michigan Technological University. He received his Ph.D. in Engineering Mechanics in 1991. Prior to joining Michigan Tech in 2009, Jim was a Project Design Engineer at the General Motors Noise and Vibration Center in Milford, Michigan where he worked on improving vehicle noise and vibration performance at every stage of the vehicle development process. Jim led the development and implementation of new vibration analysis and testing technology. He also developed techniques for establishing design performance requirements and for validating analytical model predictions. His areas of expertise include noise and vibration, structural dynamics, design, modal analysis, model validation, inverse methods applied to design, and advanced measurement techniques.

Thursday, Apr. 8, 2010 **3:00 – 4:00 p.m.** **Room 112, ME-EM Bldg.**

Comparison of Test and Analysis Results for the Purpose of Model Validation

The accuracy of analytical models is increasingly important as prototype testing and hardware-based product development are replaced by these models to identify and develop designs that meet performance requirements. Model validation is a means to determine the predictive confidence of a particular model or modeling process. The 6-Step Model Validation Process is a general method to determine bias and confidence bounds for model predictions relative to test results. This process is applied to the vibration characteristics of a sheet metal stamping as an example.

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