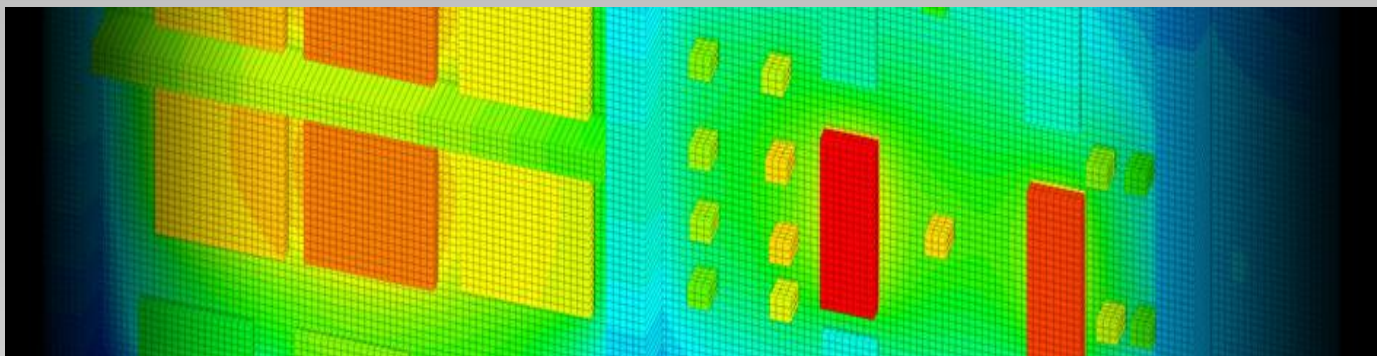


## 2010 SHOCK & VIBRATION FOR ELECTRONICS I



### OBJECTIVES

- Understand basic theories
  - ✓ Shock and vibration fundamentals
  - ✓ Strength of materials
  - ✓ Basic Finite Element Analysis (FEA)
- Apply to electronics packaging
  - ✓ Isolator selection and evaluation
  - ✓ Force amplification/attenuation study  
Rack → Chassis → PCB → Components
  - ✓ Evaluation of Environmental specifications

### WHO SHOULD ATTEND

- Mechanical engineers interested in learning basic shock & vibration analysis and application
- Electronic packaging engineers interested in hands-on training in stress analysis in shock and vibration environments
- Mechanical engineers desiring a greater understanding and applications of FEA



## CONTENTS

The class is a 3-day seminar with a combination of classroom lecture and hands-on training to understand the following materials:

### Shock and Vibration Analysis for Electronics

- Basic shock and vibration theory
- Shock & vibration application for Mil-Std-810
- Shock & vibration test data interpretation
- Isolator evaluation and selection
- Strength of Materials theory
- Practical applications for electronic packaging design – case studies
- Basic FEA theory
- FEA application to shock & vibrations
- Random vibration application to fatigue
- Introduction to Pro/E Mechanics

#### *Application tools used:*

- Pro/E Mechanics
- LuxCalc<sup>®</sup>
- LuxPCB<sup>®</sup>

## SCHEDULE

A detailed course syllabus will be sent to you before the seminar.

## LOCATION

The seminars will be presented at your facility or a mutually agreed upon location.

## REGISTRATION AND TUITION

- How to register:
  - By Phone: 408.365.2937
  - By Email: [info@luxea.com](mailto:info@luxea.com)
- Seminar fee: \$2000 per student per course
- Minimum class size – 10 students. Seminar may be canceled or rescheduled up to 1 week prior to scheduled date if minimum class size is not met.
- Refunds – cancellations made at least 24 hours in advance will receive a full refund or credit towards a future course. Student substitutions are permitted at any time prior to start of class. No refunds for registered participants who fail to attend without prior cancellation notification.

## TEACHING STAFF

The instructors at Luxea have numerous years of experience in engineering analysis in nuclear, aerospace, transportation, electronics, and defense industries.

- Head Instructor: Keith Yi has PhD in Mechanical Engineering from Stanford University and a BS in Mechanical Engineering from University of California at Berkeley. He has over 25 years experience in thermal and stress analysis.
- Instructor: Harold Durlofsky, PhD
- Instructor: Yujun Kim, PhD