

# Fundamentals of Random Vibration and Shock Testing

HALT, ESS, HASS

Measurements, Analysis and Calibration

**November 4-6, 2009 (8am - 4pm)**

**Washington Laboratories Ltd.**

4840 Winchester Blvd Suite 4

Frederick MD 21703

## **Course description (3-day course)**

Discussion, supported by projected visuals and video clips. we commence with a review of basic vibrations, sources and causes. Then we explore vibration measurements, analysis and calibration. We'll compare sinusoidal vs. random vibration testing systems, specifications, standards and procedures, also shock testing. We'll emphasize vibration and shock test fixture design, fabrication, experimental evaluation and usage. Review of modal testing.

## **Objectives**

After this short course, you will be able to measure vibration and shock, calibrate vibration and shock measurement systems, convert field measured data into a test program, interpret vibration and shock test requirements, supervise/conduct vibration and shock tests, specify and experimentally evaluate vibration and shock test fixtures and perform ESS, HALT and HASS.

**For detailed information visit [http://www.equipment-reliability.com/vibration\\_course4.html](http://www.equipment-reliability.com/vibration_course4.html).**

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# How to register for this course

Course fee is US\$2,595 per student. Payment in advance via check, Paypal, VISA or Mastercard preferred credit cards or bank transfer (ask for transfer details).

For registration and payment received one month prior to course, deduct \$100. For three or more participants from an organization **and** payment received one month prior to course, deduct \$200 each.

Visit <http://www.equipment-reliability.com/training.html> to register for this course online or via fax or by mail.

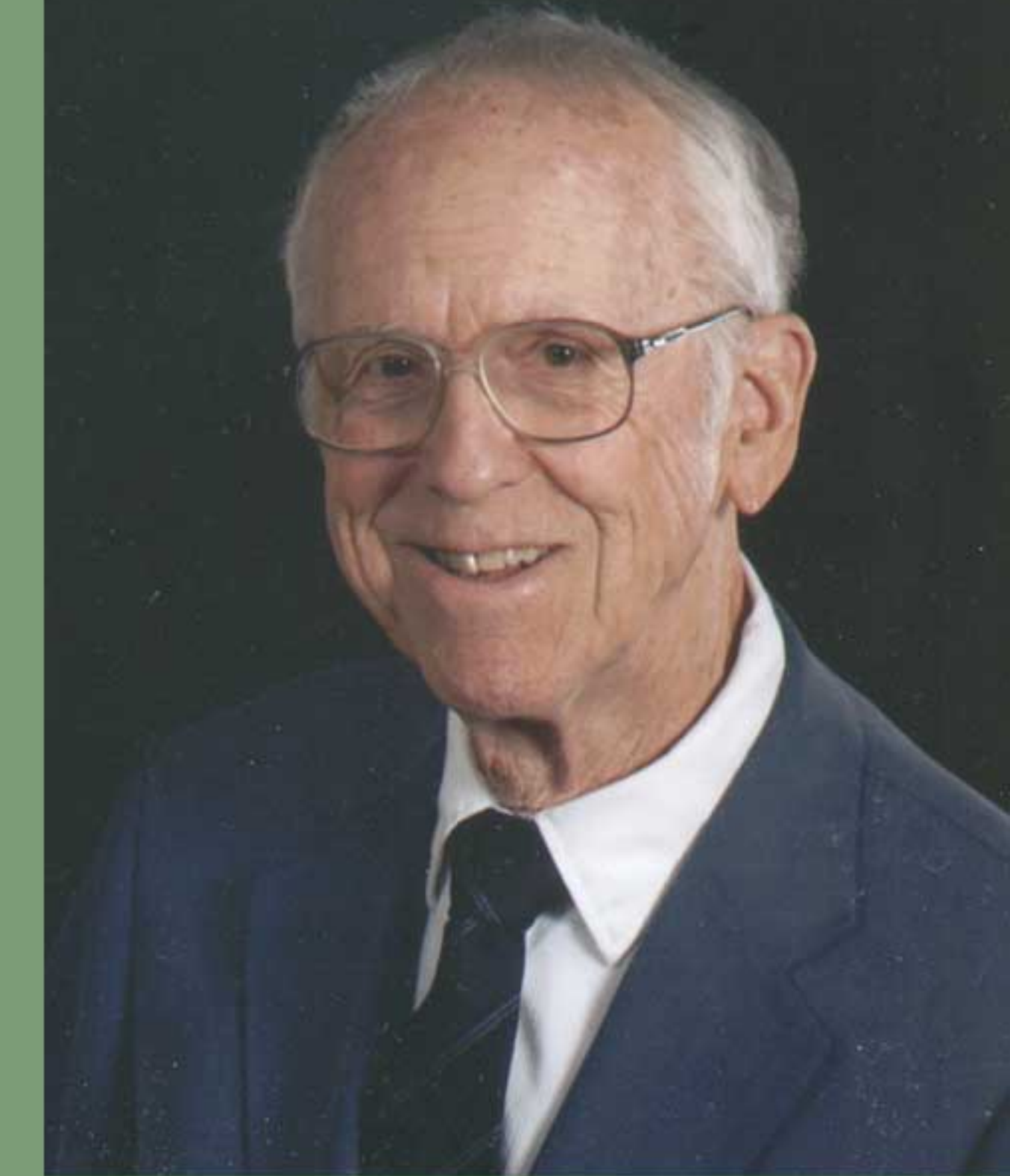
## For whom intended

Test engineers and technicians who must make vital decisions on the myriad details involved in correctly conducting vibration and shock tests. Also designers whose products must survive laboratory and field vibrations and shocks. Also supervisors of the foregoing, perhaps thrust into this responsibility without adequate training, needing to understand their people and needing to explain in technically correct language their department's activities, to superiors and to funding sources.

## Laboratory visit

One of the host organization's shaker systems and instrumentation demonstrate both sine and random vibration behavior.

Wayne Tustin



Wayne's vibration history includes employment in the vibration laboratory of a major airplane company (Boeing, at Seattle) and directing field service and technical training at a pioneer shaker manufacturer that is now known as MB Dynamics. Intending to teach and to consult, and to live at Santa Barbara, California, he founded and operated 1962-1990 a specialized engineering school. Retirement palled, so he founded Equipment Reliability Institute in 1995. Each year he teaches 8-10 short courses.

Wayne Tustin's complete biography is posted at <http://www.equipment-reliability.com/waynetustin.html>