



Welcome to Issue #76

Hanloh! ("Hello" in Thai.) Welcome to the first "Dynamic Sensors & Calibration Tips" of 2014. Reconnecting with our friends from "both sides of the world," this newsletter is coming to you from Chiang Mai, Thailand, where the TMS calibration team is spending a week educating our Asia Pacific regional calibration experts. Covering everything from portable vibration calibration to ISO 16063-21 to Laser Primary Calibration, our team learned of the latest technical advances and the progress of standards in dynamic calibration for vibration, shock, pressure and acoustics.

If you are interested in furthering your education, [send us a suggestion on what you would like us to write about.](#) One of our beliefs here at The Modal Shop and PCB Group is "work hard and play hard." Check out the bonus picture of our team adventure to Tiger Kingdom!



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Tip of the Month: The Power of FOCUS

What is the ONE single task/achievement that you know will help propel you to your most important goal this year? Consider writing that goal as an action-oriented sentence on a notecard that you can place on your monitor or bulletin board to view every day. You can make a small progress step each day if you choose to make it your focus.

Harvard University Uses Electrodynamic Shaker to Simulate Bumblebee Vibration Frequency With Flower Pollen

Harvard University's Concord Field Station research facility, headed by Dr. Stacey Combes, recently began a series of experiments to test if the frequency at which a Bumblebee vibrates its body has an effect on the amount of pollen the flower releases.

"Bumblebees are important pollinators of food crops, like tomatoes. Honeybees, the largest commercial pollinators in the US, do not pollinate by vibrating their bodies and are therefore not as effective at pollinating some crops," says Callin Switzer, graduate student for Harvard's Department of Organismic and Evolutionary Biology.



[Watch a Video of the Pollen Release](#)

"Understanding the mechanics of pollination can give us insight into..."

[Click to read full article](#)

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Technical Exchanges

[IMAC XXXII](#)

February 3-6
Orlando, FL

[Measurement Science Conference \(MSC\)](#)

March 10-14
Long Beach, CA

[Dynamic Sensors & Calibration Seminar](#)

March 27
Chicago, IL

[SAE World Congress & Exhibition](#)

April 8-10
Detroit, MI

[Dynamic Sensors & Calibration Seminar](#)

May 14
Cincinnati, OH

Quick Links

[PTB](#)

[NIST](#)

[ISO TC 108](#) - Mechanical vibration, shock and condition monitoring

[ISO TC 108/SC 3](#) - Use and calibration of vibration and shock measuring instruments

[ISO TC 108/SC 6](#) - Vibration and shock generating systems

[SAVE \(Formerly SAVIAC\)](#)

[Vibration Institute](#)

[Equipment Reliability Institute \(ERI\)](#)

[TMS Video Vault](#)

[Learn More Calibration](#)

Previous Newsletters

[Dynamic Sensors & Calibration #75](#)

Accelerometers for Health & Usage Monitoring Systems; Shock Tubes & Dynamic Pressure Characterization

[Dynamic Sensors & Calibration #74](#)

DIMM is a Bright Idea; HP Technology & Application Archive

Select Newsletter Articles by Topic

[Function and Structure of Accelerometers](#)

[Similarities Between Charge and ICP Operation](#)

[Selecting Accelerometers for Mechanical Shock](#)

[Master List of Topics \(T.O.C.\)](#)

Learn Accelerometer Basics and Proper Calibration Techniques at Dynamic Sensors & Calibration Seminars



Picture from 2013's Cincinnati Calibration Seminar

A new year brings new opportunity for learning and for personal and professional growth.

Multiple times per year, all around the globe, The Modal Shop and PCB Piezotronics take the opportunity to share their almost 50 years of industry experience and

knowledge with lab managers, technicians, engineers, and metrologists through "Dynamic Sensors & Calibration Seminars."

These seminars are offered **free of charge** and discuss a range of topics from accelerometer basics and theory to principles and practical considerations for calibration, and measurement uncertainty budgets.

There will be a seminar held at the Naperville, IL campus of DePaul University on March 27th and a Seminar and Open House at The Modal Shop headquarters in Cincinnati, OH on May 14th.

[Click here for full seminar agendas and to register](#)

modalshop.com/calibration.asp?ID=736

Blast from the Past: Does TEDS Add to My Uncertainty?

A vibration/structural test customer in Italy, brought us this perplexing observation. After entering and writing the sensitivity of a 100 mV/g into the TEDS (Transducer Electronic Data Sheet) storage memory of his accelerometer, his data acquisition software would



then read and display the value as 0.010 V/(m/sec²). Glancing at the single zero to the right of the digit "1," he became concerned that the TEDS functionality was limiting the "resolution" of the recorded calibration value to within 10%? (=0.001/0.010 Which is the resolution of the display divided by the setting.) To understand the answer to this question....

[Click to read full article](#)

modalshop.com/calibration.asp?ID=338

Thanks for joining us for another issue of "Dynamic Sensors & Calibration Tips." As always, please, speak up and **let us know what you like**. We appreciate all feedback: positive, critical or otherwise. Take care!

PCB Group Companies

- [The Modal Shop Systems & Service Website](#)
- [PCB Piezotronics Sensor Website](#)
- [IMI Monitoring Website](#)
- [Larson Davis Acoustics Website](#)
- [PCB Load & Torque Website](#)
- [SimuTech FEA Website](#)

Sincerely,



Michael J. Lally
The Modal Shop, Inc.
A PCB Group Company
mike.lally@modalshop.com

