

# Course 102: Practical Considerations in Acceleration Measurements

Saturday, January 28, 2017 | 9:00 a.m.–6:00 p.m.

## Course Description

### Part I: Measurement Considerations and Terminology for Acceleration Measurement with Application Examples

Customers/participants case studies to be submitted ahead of time to Kistler (7 – 10 days prior). Our specialist will point out solutions to the challenges that are faced on a daily basis.

### Part II: Typical Measurement Errors

The following key items will be discussed:

- Mechanical Shock
- Thermal Shock, Thermal Sensitivity Shift, and Over-heating
- Mounting
- Transverse sensitivity, Crosstalk, and Lateral Impact
- Base Strain Sensitivity
- Rocking Motion Sensitivity

In addition to discussing the above topics there will be hands on activities to demonstrate the effects that different mounting techniques have on the frequency response of the sensor. Using a tungsten block and lead break pencil, stud, adhesive, and magnetic mounting techniques will be investigated.

### Part III: Verify good functionality of your measuring chain before starting a measurement

How to check good functionality of your measuring chain for each of the following technologies:

- IEPE/Voltage output sensors
- TEDS
- Charge output/piezoelectric sensors
- Capacitive MEMS Technology

In addition proper troubleshooting for common problems with each technology will be reviewed.

## Course Fee

The regular fee is \$500, and the student fee is \$250. Course fee includes lunch, course handout material, and refreshment breaks. Lodging and additional food or materials are not included.

## Instructors

### Bill Zwolinski—Kistler

Bill Zwolinski has a M.Sc.EE from the University of Connecticut specializing in Signal Processing and Controls. Bill spent over 15 years in Product Development with his last position as Chief Engineer for Navy Carrier Landing Systems at Textron where he was responsible for hardware/software development as well as system integration and test. Recently, Bill heads up Test and Measurement in the America's at Kistler and is heavily involved with helping customers solve their measurement problems.



Bill Zwolinski

### Thomas Petzsche—Kistler

Thomas has over 23 year experience in shock and vibration measurement as well as in the calibration of mechanical and electrical properties. He is since 10 years with Kistler Instrumente in Germany. As an application manager, he is involved in all aspects of shock, vibration and acoustic emission measurement from application support, training and set-up the calibration laboratory especially for dynamic properties as acceleration and force.



Thomas Petzsche

Thomas has a diploma degree from the University of Leipzig and a Dr. rer.-nat. ( or PhD) from the Martin-Luther-University in Halle and Wittenberg, Germany in solid state physics of electromechanical properties of ferroelectrics.