



# Intertechnology Strain Gauge Workshop



## Two Day Strain Gauge & Instrumentation Workshop

- The object of this workshop is to provide practical training in the application of strain gauges and theoretical data to achieve improved results and correct analysis.
- In this comprehensive, hands-on Strain Gauge Technology Workshop, participants make several complete strain gauge installations including electrical connection, check-out, and environmental protection; and use appropriate read-out instrumentation to verify results of their own installations.
- A wide range of strain measuring devices are described in detail, guidelines for proper instrumentation selection and band usage are thoroughly reviewed. In the instrumentation portion of the program, some electrical circuitry is discussed. Familiarity with Ohm's Law series and parallel circuits and the Wheatstone bridge is helpful.
- **To express your interest Tel. 1-800-465-1600 or 416-445-5500 Ext.230 or e-mail Karin Blessing [kblessing@intertechnology.ca](mailto:kblessing@intertechnology.ca) for a registration form.**
- Instructor: Jonathan Loewenstein Ext.248.

## What will this workshop cover?

### STRAIN GAUGE CHARACTERISTICS

- Gauge Factor
- Sensing Alloys
- Transverse Sensitivity
- Strain Limits
- Fatigue Endurance

### INSTALLATION TECHNIQUES

- Surface Preparation
- Adhesive Selection
- Gauge Installation
- Procedures and Checkout
- Leadwire Attachment
- Protective Coatings

### STRAIN GAUGE SELECTION AND CONSIDERATIONS

### STRAIN GAUGE CIRCUITRY

- Quarter, Half and Full Bridges
- Leadwire Compensation

### BRIDGE EXCITATION

- Power Levels
- Self-Heating

### STATIC MEASUREMENT

- Strain Indicator Characteristics
- Multi-channel and Computer-based systems

### DYNAMIC MEASUREMENT

- Signal Conditioning
- Frequency Response
- Readout Instrumentation

## **GAUGE INSTALLATION WITH CYANOACRYLATE AND EPOXY ADHESIVES**

- Room Temperature Installation
- Leadwire Attachment
- Measuring Strain Level
- Protective Coatings

## **TEMPERATURE MEASUREMENT TECHNIQUES**

- Strain Gauge Self-Heating Effects
- Hostile Test Environments
- Special Sensors

## **NOISE REDUCTION**

- Shielding
- Grounding
- Leadwire Considerations

## **CALIBRATION TECHNIQUES**

## **ENGINEERING APPLICATION OF STRAIN GAUGES**

## **ROSETTE ANALYSIS**

Presented by:

- Mr. Jonathan Loewenstein, Applications Specialist at Intertechnology Inc. has over 30 years experience in the experimental stress analysis field, advising and working on projects in industries including Automotive, Defense, Research, Education, Aerospace and Steel plants.
- Don't miss out on your opportunity to learn more about Stress Analysis or to refresh your technique.
- We can also run on-site workshops for companies.

## **DON MILLS**

**Dates:** November 18 & 19 2008 Cost: \$ 690.00 plus taxes CANADIAN FUNDS

**Times:** 8:15am to 5:00 pm

**Venue:** Intertechnology Inc.  
1 Scaresdale Road,  
Don Mills, ON  
M3B 2R2