

# MSA GD&T training in October 2011

## “Advanced Applications and Analysis”

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The MSA has attracted an expert in GD&T to Australia to assist in advanced GD&T training. We have arranged for Dr Greg Hetland from America, as a well respect provider of GD&T training with many years experience, to provide this training and we have the opportunity to offer this training at a favourable price. Dr Hetland will also be attending the MSA conference in October as a panel member for the Coordinate Metrology Workshop.

The program is called, "**GD&T - Advanced Applications and Analysis**" and can be reviewed on the web site [www.iigdt.com](http://www.iigdt.com).

The venue will be at **NMI, Port Melbourne** (Unit 1/153 Bertie Street, Port Melbourne), depending on numbers.

This **2 day course** starting on **Monday 17<sup>th</sup> of October 2011** will be offered at **\$800 for MSA members and \$850 for non-members**. Course places will be limited to 24 to give participants every opportunity to participate fully.

Please feel free to distribute this flyer to those that will benefit from this training.

### **Course Content**

#### **Objective:**

To provide advanced information in applications and analysis (per ASME Y14.5 and ASME Y14.5.1) involving optimization strategies for given design applications, manufacturing methodologies and measurement implications.

#### **In-Depth Analysis & Implications of Advanced Y14.5 Principles**

- Multiple hole patterns used to define a single datum
- Negative implications of using “non-functional” surfaces as datum features.
- MMC, LMC and RFS Applied to Datum Features of Size
- Introduction to Multiple Hole Patterns Defined as a Single Datum
- 3D analysis of composite position callouts
- Calculations for determining allowable position tolerance for floating and fixed fastener designs
- Positioning holes and patterns of holes at “zero tolerance”
- Positioning functional coaxial cylinders from single datum
- Boundary principles used with profile for non-cylindrical shapes
- Contoured surfaces as datum features
- Mathematical definitions and implications of ASME Y14.5.1 standard
- Surface roughness implications to features of size and form constraints

#### **Optimization Strategies in Applications & Analysis of Design**

- Analysis and discussion of common error implications of dimensioning and tolerancing
- Evaluate negative implications of common incorrect measurement procedures on CMMs
- Profile definitions and boundary implications in corner transition areas
- Uncertainty implications from ASME Y14.5 and critical transformation
- Characterization of physical to functional hierarchies and criticality of this analysis
- Review and analyze “your” engineering drawings

#### **Advanced Tolerancing Development within Y14.5**

- Extension Principles for Datums used in Non-Standard Designs
- 3D Complex Profile Geometry and Tolerance Boundaries
- Critical Simplification of Y14.5
- Statistical Tolerancing