

# 2020 International Mechatronics Conference and Exhibition

## Hosted virtually by Oklahoma State University

### Workshops

#### A Workshop on *Geometric Dimensioning and Tolerancing (GD&T)*

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**Date:** September 16, 2020, 1:00 p.m. – 5:00 p.m. CST Part 1  
September 17, 2020, 1:00 p.m. – 5:00 p.m. CST Part 2

**Registration:** \$150

#### **Abstract**

Geometric dimensioning and tolerancing (GD&T) is a systematic method for defining and communicating engineering tolerances. It uses a symbolic language on engineering drawings and CAD models to define the theoretically perfect geometry of parts and assemblies, to define the allowable variation in form and size of individual features, and to define the allowable variation between features. GD&T can improve quality and reduce cost through enhanced producibility. In the current industry, GD&T is considered as one of the most critical and important skillsets for design, manufacturing, and quality control engineers. However, while a good portion of engineers use GD&T on a regular basis with a good knowledge and experience, many others are still unfamiliar with this powerful communications tool.

#### **Structure**

This two-part workshop will cover comprehensive GD&T techniques and their applications to real-world problems based on ASME Y14.5M-2009 & 2018 that is commonly used standard in the United States.

#### **Intended Audience**

Any design/manufacturing/inspection engineers, engineering managers, engineering students, teachers or faculty members who are willing to learn GD&T technique and its applications.

#### **Instructors**



Dr. Chulho Yang is a professor and MET program coordinator. He received a Ph.D. degree in Mechanical Engineering from Purdue University at West Lafayette, IN, USA as well as M.S. and B.S. degrees from Hanyang University in Korea. He also has a professional engineer (PE) license registered in Oklahoma.

Before joining OSU in 2008, he acquired 11 years of industrial experience with ArvinMeritor technical center, IBM Korea, and KIA Motors R&D Center. Much of his work focused on vehicle structure design/optimization, vehicle NVH test and development, CAD/CAM/CAE, and engineering consulting on design methodologies. Designing new vehicle structures, he registered many patents and utility model patents in the USA, Europe, Japan, and Korea. He also received an "Innovation and Achievement Award" from ArvinMeritor, Inc., a "Best Paper Award" from the International Symposium on Advanced Material and Mechanical

Application, and an "Outstanding Presenter Award" from the International Symposium on Green Manufacturing and Applications. He also served as a keynote speaker or a session chair for multiple international conferences.

He has performed research and published in the areas of mechanical system analysis and design, noise and vibration, experimental sensitivity analysis, structural dynamics and health monitoring, design optimization, biomechanics, and protective device/structure.

Dr. Yang currently teaches or has teaching interest in Engineering Graphics, Geometric Dimensioning and Tolerancing (GD&T), Intermediate and Advanced Computer-Aided Design, Advanced Mechanical Design, Vibration and Acoustics, Dynamics, Experimental Structural Dynamics, and Automotive engineering.



Mr. Greg Turner has worked in Design/Manufacturing/R&D roles for more than 40 years. He served a 4-yr Apprenticeship at Caterpillar Tractor from 1978-1982. He has a Bachelor Degree in Business Administration from Dallas Baptist University. He has worked at Caterpillar, Boeing, McDonnell-Douglas, Bell Helicopter and LTV/Vought/Triumph. He has taught GD&T (ASME Y14.5) for more than 30 years. He is currently working at Triumph in the Dallas-Ft. Worth area. He lives in Burleson Texas and likes to spend time with his wife, kids and grandkids.