



Course Catalog Number: Tmm-3
Course Track: Metrology Management
Course Topic: Test & Measurement Equipment (T&ME)
Course Career Level: Beginner/Intermediate

Monday, August 26 | 8:00 AM - 5:00 PM | 1-Day (8 Hours)

Course Title: Effective Calibration Interval Analysis

Instructor: Mark Kuster, Pantex Metrology

Abstract: Don't know where to start with calibration interval analysis or where to go next? This tutorial lays the foundation for establishing a cost-effective, quality interval analysis system or improving an existing system. Via lecture and hands-on exercises, the course covers all the required program elements for a successful system and directs practitioners toward the most suitable methodology for their situation. The lack of interval analysis negatively impacts a test and measurement program, driving up both support and consequence costs due to overly short and long calibration intervals. A poorly conceived or implemented interval analysis system will not fare well either. This tutorial targets the fundamental concepts and practices upon which to establish, evaluate, or modify systems and procedures to start or revive an effective manual or automated interval analysis system.

The tutorial will break down the interval analysis implementation process and examine it phase by phase to make recommendations. Topics covered include basic interval analysis theory and background, method selection and effectiveness, available software and other resources, data requirements for calibration management systems, instrument grouping, dogs & gems, reliability targets, initial intervals, data quality, configuration management, interval adjustments, due date extensions, delay dating, off-target reliability analysis and program evaluation. Hands-on exercises will reinforce the material covered. Attendees will receive spreadsheet tools for computing calibration intervals suitable for use on Linux, Mac OS or Windows. To participate in all exercises, attendees should bring a device capable of running spreadsheet software such as LibreOffice Calc or Microsoft Excel.

Learning Objectives:

1. Define closed loop calibration, measurement reliability, and uncertainty growth.
 2. Apply a list of required quality program elements and system features to evaluate whether an interval analysis system will produce meaningful results.
 3. Use the material to select appropriate interval analysis methods for a given scenario.
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Instructor Curriculum Vitae (CV):

Mark Kuster: Bachelor of Science degrees in Electrical Engineering and Physics from Southern Methodist University and a Master of Science degree in Electrical Engineering from the Georgia Institute of Technology. He has 28 yrs. Metrology experience, lives in Amarillo, Texas, and volunteers for FairTax.org.