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**MARRIOTT
WORLD
CENTER**
ORLANDO, FL
**MARCH 22-25
2010**

KEYNOTE PRESENTERS:



Quality and the Rebuilding of a Legend at Smith & Wesson
Ken Chandler
Vice President of Operations,
Smith & Wesson Holding Corporation



GD&T – Friend or Foe?
Ed Morse
Professor, University of North Carolina, Charlotte

***If you can only attend
one conference in 2010,
this is it!***



FEATURE PRESENTATION:
***Achieving One of the Highest
Honors in Manufacturing***
2009 Malcolm Baldrige National Quality Award Winner
**Honeywell Federal Manufacturing
& Technologies, LLC**

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MARRIOTT WORLD CENTER, ORLANDO, FL



MARCH 22-25, 2010

FOCUSED CONFERENCE TRACKS

- **Measurement:**
Delivers methods and best practices on measurement applications on the manufacturing floor, as well as dimensional measurement issues and strategies.
- **Nondestructive Testing:**
Focuses on the practical, hands-on use and application of nondestructive testing and materials testing technology needs to improve product quality on the shop floor.
- **Vision & Sensors:**
Explores the increasing need for practical information on the purchase and use of vision components as well as systems and sensors in manufacturing.



The *Quality* Conferences take place on March 22-25, 2010 in Orlando, FL, and you need to be there. No excuses.

Industries across the board are going through an unprecedented period of change. Much of it is challenging and uncomfortable, but there is also tremendous opportunity. Don't miss the opportunity to invest in your education and position you and your organization as a leader by attending the 2010 *Quality* Conference.

At the 2010 *Quality* Conference you and more than 100 conference participants will be immersed in must-have education, networking and training. The conference program includes three tracks on measurement, nondestructive testing and vision technology and solutions presented by the industry's leading experts for ideas and solutions that are relevant to YOU. In addition, the program will include an in-depth plant tour at Lockheed Martin and numerous networking opportunities including and exclusive dinner for all conference participants. We're confident you'll go back to your plants inspired and energized with actionable new ideas and techniques to put to work right away.

Make a smart investment of your time and money. Visit www.qualitymagconference.com to register today for the one conference you can't miss in 2010! It only happens once a year, so sign up right now.

We'll see you in Orlando!

Thomas Sloma-Williams
Publisher, *Quality* Magazine

Register Today at www.qualitymagconference.com!

KEYNOTE PRESENTERS:



Ken Chandler

Vice President of Operations,
Smith & Wesson Holding Corporation

Quality and the Rebuilding of a Legend at Smith & Wesson

Smith & Wesson is a legendary firearm company that is broadening into a company focused on safety, security and protection. With a history going back to 1852 and recorded in famous paintings by Frederick Remington and other artists, its reputation for high performance, high quality precision and ruggedness in its products is a result of its longstanding focus on designing and manufacturing innovative solutions that are unparalleled in its market. Over the past five years, Smith & Wesson has been revitalizing its operations to sustain its image for quality products and to provide a platform for growth. In his keynote presentation, Ken Chandler will talk about how the company has increased operational availability while continuously improving its quality levels.



Ed Morse

Professor, University of North Carolina, Charlotte
GD&T – Friend or Foe?

Geometric Dimensioning and Tolerancing (GD&T) is a means of specifying unambiguously the required geometry that a part must have to be considered acceptable. National and international standards have been developed to define the syntax (symbols) and semantics (meaning) for geometric part specification. The ASME Y14.5 standard (both 1994 and the newly-released 2009 version) explicitly states that it is "not intended as a gaging standard" and thus the interpretation of the part inspection results is often left to the user of the equipment, either with or without the help of measurement software. Ed Morse will explore the ways to interpret gaging standards and part inspection results.

IF YOU CAN ATTEND ONLY ONE EVENT, THIS IS IT!

Prioritizing your resources during 2010 is critical.

If you can attend only ONE EVENT, make it the *Quality* Conference.

- Acquire a Hands-On, Practical Approach to Test, Measurement and Inspection
- Amplify Skills with Top-Notch Education
- Connect with Invaluable Networking
- Optimize Challenging Budgets
- Leverage New Trends and Tools
- Tap Into New Ideas and Product Offerings from Exhibitors

You'll put what you see and learn at the 2010 *Quality* Conference to work at your plant the MINUTE you return home!

Make A Smart Investment of Your Time & Money Attend The *Quality* Conference

PRE-CONFERENCE WORKSHOPS:

Pre-Conference Workshops are designed to give you a half day of detailed coaching in the topics below. Workshops are included in your Full 3-Day conference registration.

Accreditation Guidance for the Interpolation and Extrapolation of Calibration Data

James Jenkins, Laboratory Accreditation Bureau

This workshop will provide guidance on the subject of both interpolation and extrapolation of calibration data as it relates to calculating measurement uncertainties and the expression of those uncertainties on both the client's scope of accreditation and any accredited calibration or testing reports as defined by the Laboratory Accreditation Bureau.

Basics of Ultrasonic Weld Inspection

Daniel Kass, Olympus NDT

This hands-on workshop will introduce use of ultrasound for the testing of welds. Conventional UT and Phased Array techniques will be outlined and then applied to actual samples. While focusing mainly on construction welding, component weld testing will be briefly outlined. Participants are welcome to bring small sample components that may be of particular interest.

Rapid Conversion of Legacy Parts into Native CAD Models

Dan Snigier, Nvision 3D

This workshop will give an overview on methods to obtain high density data from noncontact scanning systems and the conversion to native parametric CAD models. Scanning technologies to capture dense data for different sizes, shapes, and materials will be discussed. Techniques to process high density data sets into CAD models will be demonstrated. We will follow through step by step on problematic issues, troubleshooting and solutions commonly encountered when generating native CAD files.

It's the one conference you can't miss, 100% focused on helping you amplify your skills and effectiveness during the toughest marketing climate in history with an unprecedented line-up of educators from the leading companies you know and admire.

IF YOU'RE ON THIS LIST, THE QUALITY CONFERENCE IS FOR YOU:

- Corporate Managers
- Vice Presidents
- Quality Managers & Engineers
- NDT Technicians
- Supervisors
- Manufacturing Managers & Engineers
- Plant Supervisors
- Quality Technicians
- Calibration Laboratory Managers

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SPEAKERS & TOPICS

GENERAL SESSION:

Quality Plant of the Year Award Presentation

Mark Nash, Pelco Products, Inc.
John Miller, Pelco Products, Inc.



Starting as a manufacturer of niche products for the traffic industry, Pelco has grown into the largest traffic signal hardware manufacturer in North America. First, providing a rich history of the company and its journey towards the epicenter of efficiency, John and Mark will then explore the growth of the Pelco team along with the process to empower the workforce, and the impact this strategy has made on the quality of Pelco's products. Through this strategy, the quality and management teams were able to take appropriate action to turn Pelco's quality system into a catalyst for growth.

Quality Professional of the Year Award Presentation

Dean H. Stamatis, Contemporary Consultants



In this presentation Dean Stamatis will discuss qualitative measurement and America's future. He will begin by defining measurement and then explore the approaches to measurement. In addition, he makes the link of measurement with quality and explains how measurement and leadership can play a major role in America's future. Dean will close the presentation with the notion of being a winner in the long term through teams and emphasizing that appropriate and applicable measurement is the road to future success!

Calibration and its Effect on the P&L Statement

Erik Zink, Think Zink Consulting Services



Many people consider calibrations as a necessary cost of doing business. What many don't realize however, is that having a good system for calibration can actually increase profit by limiting the amount of costs in waste, scrap and rework at a company. This presentation will serve as a reminder to all of us that taking business systems for granted like calibrations limits our ability to effect positive and profitable changes within our own organizations.

Catch Part Defects BEFORE They Happen

Paul Hogendoorn, OES, Inc.



If all variables in a process are stable and constant, the outcome of the process will remain stable and constant as well. The 'variables' in a process that might change and affect part quality could be the raw material, broken or worn tooling, machine deterioration, equipment failure, lack of lubrication, or even improper presentation of the raw material. If the 'outcome' is altered, then a variable in the process has to have changed. Paul will present how to effectively monitor processes in order to detect the critical changes (or variations) in that process.

A Practitioner's View of Measurement Systems Analysis

Dean Beutel, Caterpillar, Inc.



Measurement of production components has been required since the introduction of mass production. As demand for improved product performance has increased component feature tolerances have tightened, thus increasing the requirement for precision gaging. A corresponding cost increase has accompanied these events. The desire to manage and control cost has driven the need to precisely define and specify gaging, ensuring adequacy, but not over specification of gages. Several general "rules of thumb" have developed for gaging, as well as a number of national and international standard requirements. This discussion will look at some historical gaging information and the current state of defining, specifying, and testing gaging systems.

Small Things Considered: Measurement of Sub-Millimeter Features

Ted Doiron, NIST



Ted Doiron will present new capabilities for contact measurements of sub-mm features. He will explore three different probe systems using different technologies that have been tested against each other for features between 1 mm and 0.050 mm. This study includes the sizes where the probes ranges overlap. Ted will discuss the uncertainties related to each probe, and finally the results of customer calibrations are presented.

2009 Malcolm Baldrige National Quality Award Winner

Honeywell Federal Manufacturing & Technologies, LLC



Honeywell Federal Manufacturing & Technologies, LLC (FM&T) is a management and operating contractor at the National Nuclear Security Administration's Kansas City Plant contract. The facilities under management are multi-disciplinary engineering and manufacturing operations specializing in electrical, mechanical, and engineered material components. They are one of the nation's most diverse low-volume, high reliability production facilities serving government agencies, national laboratories, universities, and U.S. industry.

Learn how this company achieved one of the highest honors in manufacturing as employees take us through FM&T's quality journey.

MEASUREMENT TRACK:

Measurement-Driven Lean Enterprise Success in Manufacturing

Leo Barry, Plexus Electronic Assembly



Maximize your data utilization! Leo Barry's presentation describes a measurement-driven strategy integrating optical, X-ray and electrical tests into core process metrics. Leo will share how trending tactics highlight common and special cause opportunities while Lean Enterprise teams achieve and maintain improvements across business boundaries. Learn how you can help your organization obtain benefits from measurement-driven lean enterprise success.

Innovations in Machine Tool In-Process Measurement and Feedback

Ray Karadayi, Applied Automation Technologies, Inc.



Dimensional measurement on machining centers has been done on simpler geometric features and mostly for part location. In recent years, collecting dimensional data on more complicated geometrical features as well as sculptured surfaces became necessary. While offline programming allows development of a probing program directly from a CAD model independent of the machine tool, post processing enables to execute this program on any machine tool with ease of use similar to any other machine tool program.



SPEAKERS & TOPICS

Gage Control After Calibration

Rick Sloop, InfinityQS International



Controlling and maintaining gaging is a must for any measurement system. However, many manufacturers miss opportunities because they don't really understand the entire gage control cycle. Measurement System Analysis (MSA) ensures that measurement systems are acceptable, routine calibrations help ensure that gages are working properly, but how do we control the gaging system between calibrations? This presentation takes MSA and calibration a step further and provides a better understanding of the entire gage control cycle.

Rapid Reverse Engineering with 3-D Noncontact Products

Dan Snigier, Nvision 3D



The need to replace or optimize aging but essential equipment designed in a pre-CAD era is a problem that crosses all industries. Parts and equipment designed without CAD technology often lack critical documentation and data necessary to create accurate computer models for analysis and/or reproduction. Reverse engineering, often costly and time-consuming, is therefore required in order to create CAD models that are utilized to analyze and improve design. 3-D noncontact measurement systems offer a faster, more accurate alternative to traditional reverse engineering methods such as calipers, gages and CMMs.

Large Scale Surface Scanning

Dave Maxham, Automated Precision, Inc.



Noncontact surface scanning is becoming more usable as a tool to generate 3-D information about parts, components and objects. This presentation describes the development of a new innovative technology for noncontact surface scanning of very large objects. A white light scanner combined with a laser tracker and six degree of freedom sensor offers high resolution, high precision scans of extremely large surface areas in a fraction of the time. This system allows quick and easy stitching of many images, assembling them into a single 3-D point cloud to virtually eliminate overlap errors or bending errors typically associated with large scans.

Calibration and Testing of CMMs: An Update on the Latest Standards

Jim Salsbury, Mitutoyo America Corporation



Accuracy standards for coordinate measuring machines (CMMs) have significantly changed over the past year, and all users of CMMs need to understand how these changes will impact the calibration and purchase of any CMM. As the CMM market has matured, so to have the testing methods; and in addition, the new standards provide a platform for expanding the same testing concepts to new CMM technology, such as vision-based instruments. This presentation will discuss the new standards, the key differences, the logic behind the changes, and the future direction of accuracy standards for CMMs.

VISION & SENSORS TRACK:

The Current State of Open Source Software in Error Proofing and Vision Systems

Anthony Oliver, CEC Controls



The use of open source software in error proofing and vision inspection has significantly increased versus proprietary software. Is this the right choice? This presentation includes an overview of the need for such software and common applications. It also includes a discussion of the cost vs. time trade-off required to decide whether open source or proprietary software may be preferred.

Smarter Cameras: How Today's Software Takes Smart Cameras to the Next Level

Bradley Weber, PPT VISION, Inc.



Smart cameras provide many benefits in a wide array of applications, including code reading, assembly verification and package inspection. Each of these applications needs to ensure that no defect is missed. Due to the wide variety of applications and ongoing innovations that differentiate one manufacturing process from the next, inspection needs are unique. Though two machine vision applications may involve inspecting similar parts, each manufacturer may require different inspection criteria, such as product size or surface defects.

Optical Noncontact Surface Roughness Measurement

David Rideout, Olympus America, Inc.



The field of surface metrology and roughness analysis has grown rapidly over the past few years, as engineers, scientists and technicians have realized that understanding surfaces is key for ensuring the performance and safety of manufactured products. As nanotechnology increases in importance, the use of microscopic surface metrology instruments must keep pace. The realm of surface metrology until recently was dominated by interferometers and contact profilometers, but as technologies advance there is a need for a more flexible and complete solution. The latest generation of laser confocal technology systems fills that need by providing direct surface roughness data, while offering backward compatibility to profilometers.

Color-Based Recognition vs. Color Measurement – Why They're Different and Why It Matters

Robert McConnell, WAY-2C Color Machine Vision



Most humans, not to mention birds, bees and other creatures with less computing power, are born with the ability to recognize objects based on their colors. Many inspection tasks can be quickly and accurately accomplished by human inspectors based primarily on color distributions. The ability to quantify and measure color is a relatively recent development. This can be critical in maintaining appearance within specifications. More generally, failure to properly distinguish color-based recognition and color measurement regularly results in overlooked inspection automation opportunities, unnecessary costs, and/or disappointing system performance.

Understanding Machine Vision Lighting Techniques

Daryl Martin, Advanced Illumination



The focus of this presentation will be to present basic machine vision lighting concepts and explain them from a technical aspect. Lighting geometries, spectral considerations, camera/lens/light interactions and the impact of part surface finish will be discussed as they relate to the desired image. Example images will be used to illustrate how these factors impact an image. The end result is to prepare the attendee to specify and select a machine vision lighting system.

Five Good Reasons to Use Vision Software

Thomas Nepstad, Cognex



Industrial vision inspection is now essential in most production lines around the world. With the constant introduction of new vision technologies, it is hard to tell if your existing vision system is still the best solution for your current inspection demands. In this presentation, Thomas Nepstad will explore the benefits of PC-based inspection using vision software. Using vision software instead of integrated systems provides benefits including acquisition flexibility, powerful vision tools, scalable hardware, simple integration and lower cost. With application examples, tables and discussions, he will help you recognize the potential of vision software in factory automation and quality assurance.



SPEAKERS & TOPICS

NDT TRACK:

Comparison Between 3-D Metrology Results Gained With Conventional Resolution X-ray Tomography

David Lehmann, GE Sensing & Inspection Technologies



High resolution X-ray tomography is currently evolving from an established qualitative analysis method to become a powerful quantitative tool which can be used for high precision 3-D dimensioning. For this application the quality of the measured CT data-set significantly determines the accuracy of all following 3-D measurements. To achieve high precision metrology results, the reconstruction algorithm has to take into account and correct inevitable physical effects which occur during CT data acquisition like beam-hardening. The traceability of the CT measurements results, which are generated by advanced surface extraction algorithms, is ensured by calibrated and certified test specimen.

An Automated and Quantitative Method for Quality Assurance of Digital Radiography Imaging Systems

Imaging Systems, Steven A. Mango, Carestream Health, Inc. – NDT Solutions



As the transition to digital imaging technologies continues to gain momentum in the NDT industry, users are concerned with monitoring the performance and stability of their imaging systems. Industry standards (ASTM, CEN) have defined test phantoms and methods, but many users are finding these cumbersome to use and/or too pricey. As a result, several military and government defense contractors have developed lower cost alternatives, but these still require tedious and sometimes subjective analyses. This presentation will describe a unique phantom and an automated method for the quality assurance (QA) of digital imaging systems.

Using Phased Array for Weld Inspection

Daniel Kass, Olympus NDT



Like many other nondestructive testing methods, ultrasonic flaw detection has been a valuable quality assurance tool for many years. The reflection and transmission of high frequency sound waves has long been an important tool for evaluating the integrity of welds. Over the past couple of decades these inspections have been improved by the now completed transition to fully digital instruments that greatly aid interpretation and measurements. This presentation will discuss transitioning from conventional UT to phased array, as well as the application and benefits using this growing technology.

In Line Eddy Current Systems

William Buschur, ibg NDT Systems Corporation



This presentation will focus on pictorials and videos of actual systems for material properties (heat treat & alloy) and crack testing on automotive components, including steering racks, strut rods, drive shafts, bearing components, CV joints, forgings, con rods, ball studs, tie rods, spindles, cylinder liners, camshaft lobes and others. Technical considerations include the important basic technical requirements the applied eddy current methods must meet in order to make testing highly reliable, with high resolution and repeatability, and with easy implementation and use, including multiple frequency tests for heat treat and multiple filter tests for cracks.

Automatic Measurements With Flexible Programmable X-ray Image Evaluation Routines

David Lehmann, GE Sensing & Inspection Technologies



The diversity of quality requirements in manufacturing environments demands a flexible image processing tool. For automatic nondestructive measurements of internal features, such a tool is realized by Xe², a graphical development system for measurement scenarios in the X-ray image. Within this development environment, the user can choose between a lot of different image processing algorithms, which can be combined with almost no limitation. The algorithms in use are, for example, edge detection, grayscale analysis, pattern matching or void detection. After using the image processing algorithms it is possible to run geometrical or statistical functions on the extracted features such as the fit of geometric principles, data rows or Boolean operators.

Management Confidence and Production Uncertainty

Brian D. Bright, ATEQ



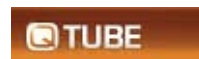
This executive presentation will address the source of quality and production problems that are unknowingly being diluted as they progress up the management chain. The very best Quality, Manufacturing, Product and Six Sigma Engineering Managers are unable to uncover this problem because, according to the production data, the problem doesn't exist.

See Complete Schedule at www.qualitymagconference.com!

**WANT TO LEARN MORE
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www.qualitymag.com!**



Maximize A Must-Attend Learning Opportunity At the Quality Conference



View the 2009 Quality Conference Recap and Video Presentations From the 2009 Event

EXCLUSIVE FACILITY TOUR AT LOCKHEED MARTIN

LIMITED CAPACITY!

Thursday, March 25, 2010

9:00am-1:00pm

Transportation will be provided
to/from Marriott Orlando World Center

Cost per person: \$50

Requirements: This is open to all QMC attendees who are U.S. Citizens
and/or Green Card Holders. Proof of identity will be required.



UNPRECEDENTED NETWORKING

There is no better place for meeting new colleagues and networking than at the *Quality Conferences*. All networking functions are included in your conference registration.

COCKTAIL RECEPTION

Monday, March 22, 2010
5:00 - 6:00pm

The opening night will feature your opportunity to network with all conference participants including top suppliers, the most successful quality engineers and your peers! Start the week off right by sharing some cocktails and good conversation at the conference kick off!

WELCOME RECEPTION

Tuesday, March 23, 2010
5:00 - 6:30pm

Convening after the first full day of the Quality Conference participants will have a chance to enjoy cocktails and heavy hors d'oeuvres. Prize giveaways will be awarded for those in attendance.

NETWORKING DINNER RECEPTION

Wednesday, March 24, 2010
6:00 - 10:00pm

When the conference concludes, the networking keeps right on track with a dinner reception held in the Orlando area. The dinner networking reception has been a hit in past years and we guarantee it will deliver all you could hope for in 2010!

Tour will include visits and discussions on:

- Lockheed Martin Museum
- Optics and Diamond Turning Lab
- Precision Metrology/Inspection and Machining
- General Machining area FMS system
- Metrology/Calibration (Mechanical and Electronic)

Register Today at www.qualitymagconference.com!



The 12th Annual



The 3rd Annual



The 2nd Annual



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MAKE THIS YOUR MUST-ATTEND EVENT IN 2010

YOUR REGISTRATION INCLUDES:

- Complete access to all INTERACTIVE SESSIONS on March 23 - 24, 2010 held by the best and brightest in the industry
- Total access to all MONDAY WORKSHOPS (for full 3-Day registration only)
- Full access to EXHIBITION HALL to learn about the latest products and services for all aspects of the industry
- Networking events including exclusive COCKTAIL RECEPTION on the evening of Monday, March 22, 2010, WELCOME RECEPTION on the evening of Tuesday, March 23, 2010 and NETWORKING DINNER on the evening of Wednesday, March 24, 2010
- Conference MEALS to include continental breakfasts, luncheons, breaks & networking functions
- Conference PROCEEDINGS with complete speaker presentations

**Plant Tour Is Additional*

Register Today at www.qualitymagconference.com

**MARRIOTT
WORLD CENTER,
ORLANDO FL**

MARCH 22-25, 2010

SPECIAL DISCOUNTED ROOM RATES HAVE BEEN SECURED FOR CONFERENCE PARTICIPANTS.

To make overnight accommodations please call 1-800-621-0638 and ask for the "Quality Conference" group rate of \$169/night + tax. Bring the family and stay for the weekend – this rate will be extended to you 3 days before and after the event.



REGISTRATION FEES

	Early Bird (for first 75 registrants)	Standard
Full 3-Day Registration	\$895	\$995
2-Day Registration	\$795	\$895

It's An Investment You Can't Afford Not to Make!