

April 16 - 19, 2019 Anaheim, CA

MSC Training Symposium

Advancement in Measurement Technology



Presidents Message

Welcome to the 2019 MSC Training Symposium. Since 1970, MSC has been an international leader in promoting educational training in the measurement and metrology communities. The 2019 conference theme is **Advancement in Measurement Technology**. As we approach the next decade, understanding the technological advancements in all areas of our industry are more important than in prior years. With new innovations comes the need to comprehend and educate. This year's symposium will offer numerous exceptional measurement related courses and technical sessions presented by industry professionals and innovative manufacturers. The NIST Seminars, Tutorial Workshops, ASQ Training and Conference Technical Sessions will broaden one's knowledge in a wide range of measurement disciplines featuring speakers from the pharmaceutical, aerospace, manufacturing, quality and military industries. Our dynamic Key-note Speakers will inform us of the latest trends and evolutions in the measurement community.



The 2019 Symposium will feature new advanced developments in measurement related courses providing fundamental measurement training in a variety of disciplines seeking to advance their knowledge and broaden their skill sets. As always, there will be opportunities to network with fellow measurement professionals and with the manufacturers to view the latest in products and services.

The MSC Scholarship and Technical Academy programs reach out to prospective students to considering careers in the measurement community both commercially and in government. We welcome and invite all MSC participants to consider supporting these invaluable student programs that represent our future.

Our Exhibit Hall features training, measurement and related companies highlighting advanced technology and innovation in the measurement marketplace. We invite you to visit the Exhibit Hall during the Symposium to engage and see first hand the latest in advanced products and services.

The MSC Training Symposium will be held at the world-renowned Disneyland Hotel and Resort in Anaheim, California. Easily reached with scheduled ground service from area airports direct to the Disneyland Hotel lobby. Attendee spouses and children are always welcome to enjoy the theme parks and local activities.

I look forward to meeting you at the MSC Training Symposium Anaheim, April 16-19, 2019.

Bernice Holtsclaw

Conference President

Disneyland
RESORT



Disneyland Hotel & Convention Center 1150 Magic Way, Anaheim, CA

Register at: www.msc-conf.com

April 16 - 19, 2019



Course Planner

Tuesday April 16	Wednesday April 17	Thursday April 18	Friday April 19
	Tutorial Workshops Full Day T01, T02, T03, T04 T06, Half Day PM: T05	Exhibit Hall Symposium Technical Sessions	Exhibit Hall Symposium Technical Sessions
NIST Seminars 3 Day N01			
NIST Seminars 1 Day N03, N04, N05	NIST Seminars 1 Day N06, N08	NIST Seminars 1 Day N09	Panel Sessions
	NIST Seminars 2 Day N10		
NIST Seminars 2 Day N02		Tutorial Workshops Half Day AM: T09, T10, T11, T12 PM: T14, T15, T16	
ASQ - CCT 2 Days			
9:00 PM World of Color	6:00 PM Exhibitors Reception	6:00 PM President's Reception	2:00 PM Panel Session

NIST Seminars & ASQ – CCT Courses Start at 8:00 AM

No1 JCGM Guide to the Expression of Uncertainty in Measurement

Speakers: William Guthrie & Hung-Kung Liu, NIST 3 Days: Tuesday - Wednesday -Thursday

No2 NIST Pressure and Vacuum Measurement

Speakers: Jacob Ricker & Julia Scherschligt, NIST 2 Days: Tuesday - Wednesday

No3 Understanding ISO/IEC 17025:2017

Speakers: Dana Leaman, NIST 1 Day: Tuesday

No4 Microwave Measurement Fundamentals

Speaker: Ron Ginley, NIST 1 Day: Tuesday

No5 Realization and Dissemination of Mass in the New SI

Speaker: Patrick Abbott, NIST 1 Day: Tuesday

No6 Auditing, Traceability and Auditing of Traceability to ISO/IEC 17025:2017

Speakers: Kari Harper, Titilayo Shodiya, NIST 1 Day: Wednesday

No8 Introduction to Photonics

Speaker: Zeeshan Ahmed, NIST 1 Day: Wednesday

No9 Optical Gas Pressure via Fixed Length Optical Cavity (FLOC) Pressure Standards

Speaker: Jacob Richter, NIST 1 Day: Thursday

No10 Fundamentals of Metrology

Speakers: Georgia Harris, Carol Hockert, NIST 2 Days: Wednesday - Thursday

ASQ-CCT Preparation for ASQ Certified Calibration Technician Exam Refresher Workshop PART 1 & 2.

Instructor: Dilip Shah, E=mc³ Solutions 2 Days: Tuesday - Wednesday

Tutorial Workshops

Full Course Descriptions at msc-conf.com



Wednesday Full Day Tutorial Workshops

Workshops Start at 8:00 AM

- T01 Fully Automated ISO/IEC 17025:2017 Meter Calibrations in Metrology.net**
Speaker: Michael Schwartz, Cal lab Solutions **Full Day: Wednesday**
- T02 Basic Low Gas Flow Calibration Using molbloc/molbox Gas Flow Standards**
Speakers: Casey Rombouts, Kyle Clark, Fluke Calibration **Full Day: Wednesday**
- T03 Metrology 101, Back to Basics,** **Full Day: Wednesday**
Moderator: Tim Mason, NSWC Corona
- T04 Hands-on Resistance and High Current Measurements** **Full Day: Wednesday**
Speaker: Mark Evans, Guildline Instruments, Canada
- T05* Mass Metrology *Half Day: Wednesday 1:45 PM - 5:00 PM**
Speaker: Dr. Ian Ciesniewski, Mettler-Toledo
- T06 Pipette Calibration and Repair**
Speaker: Larry Newman, Thermo Fisher Scientific

Thursday AM Half Day Tutorial Workshops

Workshops Start at 8:00 AM

- T09 Triple Point of Water Realization and Maintenance Considerations**
Speaker: Stanley Pond, Michael Pond, Pond Engineering **Half Day: Thursday AM**
- T10 Vibration Workshop** **Half Day: Thursday AM**
Speaker: Patrick Simmons, The Modal Shop
- T11 Force Calibration** **Half Day: Thursday AM**
Speaker: Henry Zumbrun, Morehouse Instrument Co.
- T12 IAS Tutorial TBA** **Half Day: Thursday AM**
Speakers: Dr. George Anastasopoulos, Prasanth Ramakrishnan, International Accreditation Service

Thursday PM Half Day Tutorial Workshops

Workshops Start at 1:45 PM

- T14 Industrial Pressure Calibration and Measurements** **Half Day: Thursday PM**
Speaker: Jon Sanders, Additel Corporation
- T15 Tools for Risk-based Thinking to Support Technical Validity of Calibration Results**
Speaker: Helga Alexander, International Accreditation Services, IAS **Half Day: Thursday PM**
- T16 Healthcare Metrology Program Documentation Best Practices-An Industry Perspective**
Speaker: Marcus B. McNeely, MMc Consulting Services, Inc. **Half Day: Thursday PM**

Thursday - Friday April 18 - 19

Symposium Technical Sessions

Full Course Descriptions at msc-conf.com



Track A

Progressive
Technologies

Track B

Metrology &
Calibration

Track C

Quality
& Process
Management

Track D

Bio Science
Pharma &
Healthcare
Technical Briefs

Session 1 Thursday 8:45 AM - 10:00 AM

- 1A** NVLAP – Embracing the Changes in ISO/IEC 17011 and ISO/IEC 17025
Speaker: Dana Leaman, NVLAP
- 1B** Fundamentals of Electrical Metrology
Speaker: Jesse Morse, Morse Metrology
- 1C** ISO 17025 Auditing for Process Performance
Speaker: Dr. Catherine L. Martin, Raytheon
- 1D** Best Practices for Computerized Calibration Management Systems for Life Sciences and Other Regulated Industries
Speaker: Marcus McNeely - MMc Consulting Services, Inc

Session 2 Thursday 10:45 AM - 12:00 PM

- 2A** Achieving Assessment Consistency
Speaker: Randy Long, ANAB
- 2B** Electronic Pressure Calibrators
Speaker: Jim Pronge, Ametek
- 2C** Applications of Predictive Maintenance
Speaker: Hans Devouassoux, Disneyland Resort
- 2D** Review of Calibration Related FDA & other Regulatory Observations
Speaker: Marcus McNeely - MMc Consulting Services, Inc.

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Session 3 Thursday 1:45 PM - 3:00 PM

- 3A Wireless On Site Calibration**
Speaker: Ing. Roberto Benitez Chavez, ETALONS, S.A. de C.V.
- 3B Out of the Laboratory: Weights and Measures in Everyday Life**
Speaker: Kurt E. Floren, County of Los Angeles Dept. of Weights & Measures
- 3C How to Measure Geometric Tolerances on Intricate and Unique Products**
Speaker: Joe DeSimone, Consultant
- 3D Graphene based table-top Quantum Hall Resistance Standard**
Speaker: Shamith Payagala, NIST

Session 4 Thursday 3:45 PM - 5:00 PM

- 4A Microwave**
Speaker: Ron Ginley, NIST
- 4B Periodic Table of Metrology (PToM)**
Howard Zion, Transcat
- 4C Failure Mode Effects Analysis**
Speaker: Chhanubhai (C.G.) Mistry, Consultant
- 4D Using PdM (Predictive Maintenance) to Lower Maintenance Costs**
Speaker: Larry Newman, Thermo Scientific

Session 5 Friday 8:45 PM - 12:00 PM

- 5A Metrology of Tomorrow**
Speaker: Emil Hazarian, Wilmington Instrument Co.
- 5B Changes to ASTM E74 on Force Calibrations**
Speaker: Mike Tovey, Tovey Engineering
- 5C Practical Innovation with TRIZ Theory of Inventive Problem Solving**
Speaker: Akhilesh Gulati, Pivot
- 5D NIST Pressure**
Speaker: Jacob Richter, NIST

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Session 6 Friday 10:45 AM - 12:00 PM

6A Panel Session: Calibration Collaboration

Moderator: Jennifer Stewart, NSWC Corona, Panelists: Chuck Na, NIST
Rick Shindell, US Navy SBIR Support

6B NIST Temperature & Humidity

Speakers: Dawn Cross, Christopher Myer, NIST

6C World Café - Use of Affinity Diagram, Interrelationship Diagrams, Tree Diagrams, PDPC (Contingency Plan).

Speaker: Mark Lindsey, Disneyland Resort

6D Quantum SI

Speakers: Zeeshan Ahmed, Patrick Abbott, NIST

General Panel Session

Friday, 2:00 PM - 4:00 PM, Magic Kingdom Ballroom

Topic: The Impact of New Quantum SI Definitions

Moderator: Emil Hazarian, Wilmington Instrument Company

Panelist: Helga Alexander, International Accreditation Service

Panelist: Jeff Gust, Fluke Corporation

Luncheon Keynote Speakers

12:15 PM Magic Kingdom Ballroom

Wednesday: **Stacia Martin**, The "Lost" Music of Mary Poppins
The Walt Disney Company

Thursday: **James K. Olthoff**
National Institute of Standards and Technology

Friday: **Captain Rick Braunbeck**
Naval Surface Warfare Center, Corona Division

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Symposium General Information

Registration, Hotel, Transportation, Theme Park Tickets

msc-conf.com

866 - 672 - 6372

Registration

Course Fee Schedule

Register at
msc-conf.com

4 Day Inclusive Pass:	\$ 1495
3 Day Inclusive Pass:	\$ 1395
2 Day Inclusive Pass:	\$ 1195
1 Day Inclusive Pass:	\$ 895
Half Day Tutorial Workshop:	\$ 450

Hotel & Ground Transportation Information

Disneyland Hotel & Convention Center



1150 Magic Way, Anaheim, CA **714 - 520 - 5005** MSC Room Rates: \$239.00

<http://annualconf.msc-conf.com/hotel/> Click on: **Book Rooms**

Disneyland Resort Express 800-828-6699

Direct Bus Service from Orange County (SNA) & Los Angeles International (LAX) Airports

<https://dre.coachusa.com>



Theme Park Tickets

MSC special rate Theme Park tickets available until April 10.

Visit <http://annualconf.msc-conf.com/hotel/>

Click on: **Buy Tickets**

MSC Business Office

MSC Training Symposium

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