### **Workshop on Evaluation of Measurement Uncertainty and ISO-17025**





#### **Contact Information:**

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### **Workshop on Evaluation of Measurement Uncertainty and ISO-17025**

25- 28 JULY 2017



**CSIR-Central Scio** Delhi

**CSIR-Human I** Gha www.csirhrdc.res.in

At

CSIR-HRDC, Ghaziabad

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	Institute/Industry Affiliation with address:			
	Contact Number:			
	Email:			
	<b>FEE:</b> Rs. 16000/-			
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entific Instruments Organisation Centre, Delhi 110012		•		
www.csio.res.in	Recommendation from controlling authority			
and	Name & Designation with Seal			
Resource Development Centre				
ziabad,U.P. 201002				

\*Fees to be deposited by demand draft in favour of The Director, CSIO Chandigarh payable at SBI sector 30 Chandigarh

## **About CSIR-CSIO**

CSIR- Central Scientific Instruments Organisation (CSIO), is a premier national laboratory dedicated to research, design and development of scientific and industrial instruments. It is a multi-disciplinary and multi-dimensional apex industrial research & development organisation in the country to stimulate growth of Instrument Industry in India covering wide range and applications.CSIO Regional Centre, New Delhi was established in the year 1961 as one of the Service and Maintenance centers under CSIR-CSIO, Govt. of India having headquarters at Chandigarh. The center focuses on conducting Training Programs on Repair, Maintenance and Calibration of Bio-Medical, Analytical and Energy Management Instrumentation along with R&D activities.

## **About CSIR-HRDC**

CSIR-Human Resource Development Centre is the central training establishment of Council of Scientific & Industrial Research under Ministry of Science and Technology. The Centre is situated in an ideal location about 6 kms away from the main town of Ghaziabad, U.P. near the NH 24 and is around 50 kms from Delhi Airport and 40 kms from the rail stations in Delhi. The mandate of the Centre is to promote a professional and holistic human resource development in CSIR by offering training programmes for professionalizing R&D management and support functions. The focus of CSIR-HRDC is to provide and hone the intellectual skills of CSIR personnel in organizational, managerial & technical domains and cultivate a culture ofinnovation as pre-requisite to excel.

## Motivation

As per the requirement of measurements / calibrations, all the laboratories are required to estimate uncertainty of different parameters. While estimating the Uncertainty of Measurements, uncertainty components which are of importance in the given situation should be taken into account. It will include uncertainty of reference standards / materials reported in their calibration certificates, measurement method employed, equipment used and environmental conditions etc. The highly qualified and experienced professionals of respective areas will address the practical problems in deciding the important contributing factors of uncertainty.

The program will provide confidence to the participants for evaluating and reportingthe measurement uncertainty of various parameters. The overview of ISO-17025 will also be provided for improvement of performance of laboratories.

# Objectives

This workshop is designed to impart an interactive experience to the participants in the area of measurement uncertainty of different parameters. The objective of the Workshop is to equip the engineers, scientists and technologists working in the area of testing and calibrationwith the different aspects of uncertainties and to establish equivalence of measurement result for its global acceptance. During this Workshop, participants will be provided hands-on training for evaluation of uncertainties and it effect on measurement results. An overview of ISO 17025 for improving the quality of measurement results will also be covered.

## **Course Contents**

- Basics and overview of ISO 17025
  - Requirement of Quality Management System and Process of implementation
  - Elements of IS/ISO/IEC-17025:2005
    Management requirement,
    Technical Requirements
- Measurement Uncertainty
  - Concept and terminology
  - Sources of uncertainties
- Components of uncertainties
  - Type A uncertainty
  - Type B uncertainty
  - Expanded uncertainty
- Hands on Sessions
  - Practical demonstrations
  - Calculation and analysis of uncertainty
- Visit to CSIR-NPL, Delhi

# Pedagogy

The pedagogy of the programme will use a mix of class room sessions, experiential learning and team exercises. In order to enhance the effectiveness of the workshop, hands on sessions will be scheduled and case studies on uncertainty evaluation in diverse measurement areas will be discussed. A visit to national standard's labs at CSIR-NPL will be arranged for the participants..

### Who should attend

Scientists, Technologist, and Researchers etc. from private laboratories, industries and academic institutes performing measurements, testing & calibration and persons aspiring to take up career in the above field.

Seats are limited and will be filled on first come first serve basis. Number of participants per institute/industry may be limited in case of overwhelming response.

# Participation Fees

For Industry/ Academic Institutes/ Laboratories/ Govt. Organisations: Rs. 16000/-

Fee includes registration, course material, lodging and boarding

# Important Dates

Last date for Registration: 15.07.2017

Notification of acceptance: 18.07.2017

Dates of Workshop: 25 to 28 July, 2017