



**WORKSHOP ON
MEASUREMENT UNCERTAINTY
FOR CHEMICAL TESTING
LABORATORIES (SESSION 2)**

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TRINIDAD AND TOBAGO BUREAU OF STANDARDS

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WORKSHOP ON MEASUREMENT UNCERTAINTY FOR CHEMICAL TESTING LABORATORIES (Session 2)

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| Facilitator: | Dr. Mariana Arce Osuna , Scientific Coordinator, Organic Materials Division, National Metrology Institute, Mexico |
| Date: | 28 th and 29 th May 2007 |
| Time: | 9.00am to 4:00pm |
| Target Group: | Testing Laboratories, Assessors, Quality Practitioners |
| Organisers: | Lab Accreditation Service and National Metrology Institute, Trinidad and Tobago |
| Cost: | TT\$2000. plus vat |

OBJECTIVES

- For training in the understanding and use of measurement uncertainty for accreditation and proficiency testing by laboratories
- To provide a working knowledge of the methods needed to compute measurement uncertainties for chemical analyses using ISO methods
- To train Quality Managers, Laboratory Supervisors and Technicians in understanding the requirements of the international standard, including the development, implementation and operation of Uncertainty Budgets.

N.B. Clause 5.4.6 of the international standard **ISO/IEC 17025:2005 – *General Requirements for the Competence of Testing and Calibration Laboratories***, states that testing labs shall have and shall apply procedures for estimating uncertainty of measurement.

TOPICS

- Measurement Uncertainty made easy
- Need for Uncertainty Assessment
- Methods of Uncertainty Assessment
- Identifying uncertainty contributors
- Preparation of Uncertainty budget (simplified approaches)
- Single component example
- Measurand equations, Type B uncertainties
- Propagation of uncertainties
- General Examples of Uncertainty Budgets and Linear regression example
- Discussion on reporting compliance to a specification
- Group exercises and practice exercises on calculating measurement uncertainty
- Evaluation of inputs
- Application and importance of Uncertainty Evaluation

Conduct of Workshop: Lectures, Worked examples, practice exercises, participant input

Day 1 Theory and Basic concepts, Examples

Day 2 Practical Worked Examples

Please note:

Participants should walk with a copy of a Test method for use in the working group sessions

In order to receive a certificate of successful completion for this training program, participants must submit an uncertainty calculation for a test of their choice within one month of the end of the program

