Traceability and Uncertainty in Measurement for Testing Laboratories

ISO/IEC 17025 requires that all laboratories must make a reasonable estimate of their uncertainties of measurement. Join this course to find out how to do this.

Accredited testing laboratories are required to be in full compliance with ISO/IEC 17025. Laboratories need to have and apply procedures for making reasonable estimates of uncertainty of all test results.

The first day of the course will cover:

- International agreements on how to approach uncertainty estimates for the various disciplines
- APLAC/IANZ policy and guidelines for each discipline
- Meaning of uncertainty and overview of uncertainty requirements in ISO/IEC 17025
- Other key elements of the standard related to uncertainty such as method validation and traceability

The second day will start with:

- Description of various approaches such as using published data, using precision data and full ISO/IEC Guide 98-3 (GUM) estimations
- A video film on estimating uncertainty
- A simple illustration of how to apply Guide 98-3

The rest of the second day and the whole of the third day, the class will divide up into small discipline groups – chemical, biological, physical, medical, etc to work through the step by step processes to finally arrive at a suitable uncertainty estimate.

We will look at possible alternative approaches for your discipline, deciding when to use which approach and calculations for each approach. Examples and practical exercises will dominate this time and computer spread-sheets will be used. It would be to your advantage to bring your own computer for these practical exercises.

Suitability

This course is designed for analysts who will be required to estimate the uncertainties of their test results and for those responsible for technical management of testing laboratories. Participants will be guided through the decisions on which approach is best for their applications. Instructions and practical exercises will be given on how to prepare the models and do the calculations necessary to arrive at reasonable estimates of uncertainty.

Presenter

The lead presenter is Dr. Max Robertson, retired General Manager, International Accreditation New Zealand. Max was a leader at the APLAC workshops on uncertainty in testing.