

# Training for Industry



The STA provides independent and impartial training to meet the needs of the members on a variety of topics related to emission monitoring.

There seems to be nothing more uncertain in the emission monitoring industry than calculating uncertainty. It is a requirement of accreditation to ISO17025. It is a requirement from the regulators in regard to the European Directives. It is a requirement from clients who want to know how good the numbers are.

The one day training course expel some of the myths around this very difficult topics and provide participants with the tools to understand and provide a consistent approach to uncertainty figures based on STA guidance.

## Course Content

1. What is uncertainty?
2. How does it arise?
3. Why is it important?
4. Expressing uncertainty of measurement
5. Error versus uncertainty
  - Basic statistics on sets of numbers
  - Average
  - Spread – Standard Deviation
  - Exercise – calculation of standard deviation
6. Where do errors and uncertainties come from?
7. General kinds of uncertainty in measurement
  - Random or systematic
  - Distribution, normal, uniform or rectangular distribution, others
  - What is not a measurement uncertainty?
8. How to calculate uncertainty of measurement
  - Type A and Type B evaluations
  - Calculation steps



**Course duration:** One day starting at 10.00 am

## Who should attend

This course is aimed primarily for emission monitoring personnel, report writers, and report readers.

## The Cost

For prices go to the STA website or use the link below:

<http://www.s-t-a.org/training>

Course number UN-1



As the STA is a non-profit making organisation and therefore all courses are run at cost to the membership.

Costs of training courses are available from <http://www.s-t-a.org/training>

**COURSES CAN BE HELD ON-SITE contact Samatha for details.**

Uncertainty in Emission Monitoring