



The mission of the IRMM is to promote a common and reliable European measurement system in support of EU policies.

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Use of reference materials and the estimation of measurement uncertainty

Training course

JRC-IRMM
Geel, Belgium

2 - 3 April 2008



EUROPEAN COMMISSION

Robust science for policy making

OUR MISSION

The mission of the Joint Research Centre is to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of European Union policies. As a service of the European Commission, the Joint Research Centre functions as a reference centre of science and technology for the Union. Close to the policy-making process, it serves the common interest of the Member States, while being independent of special interests, whether private or national.

Training course - Use of reference materials and the estimation of measurement uncertainty

Aim

- Measurement uncertainty and traceability of measurement results are essential for the evaluation of measurement results.
- Reference materials are key tools for achieving traceability of measurements, proving accuracy of methods and demonstrating proficiency of laboratories.
- This course provides participants with the theoretical basis for the **estimation of measurement uncertainty and establishment of traceability**. This knowledge is applied to the proper **selection and use of reference materials**.

Who should attend?

- Laboratory managers and practitioners in analytical laboratories who use reference materials for statistical quality control, method validation and calibration and need to assess measurement uncertainties on customer's demand or as requirement of ISO 17025.
- ISO 17025 auditors who need to assess the estimation of measurement uncertainties and the correct application of certified reference materials.

Prerequisites

MS-Excel is used during the exercises. Familiarity with this program as well as knowledge of basic statistical concepts (average and standard deviation) are required to make full use of the exercises.

Organisation

Prof. Dr Hendrik Emons

Contact

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Topics tackled

Uncertainty estimation

- What are the basic principles?
- How to estimate uncertainty from validation data?
- How can I use reference materials to estimate my measurement uncertainty?

Establishing traceability

- What do I have to do to make my results traceable?
- How can I establish traceability with reference materials?

Reference material selection

- Where can I find reference materials?
- Which material is the right one for me?

Reference material handling

- How much of each material must I use?
- How should I store my materials?
- How do I correct for moisture?

Reference materials use

- How can I demonstrate trueness?
- How can I demonstrate my method proficiency?

Making full use of available information

- What do the terms on a certificate mean?
- What can I do with a certification report?

Intensive practice in small groups

This course strongly emphasises practical application of the theoretical concepts. To this end, each lecture is accompanied by exercises in small groups (5-6 people) during which the concepts are put into practice. Each group is supported by a trainer who helps in asking the right questions and guides the group to a successful conclusion. About half of the time of the course is devoted to these exercises.

Participants can bring their own laptops to facilitate the exercises.

Participants will have the opportunity to visit JRC-IRMM's facilities for reference material processing and storage.

Practical information

Timing

The course will start on the 2nd of April 2008 at 9:00 and it will finish on the 3rd of April 2008 at 15:00 (or 16:00 for those visiting the processing and storage facilities).

Accommodation

Hotel Corsendonk Viane in Turnhout
(<http://www.corsendonkviane.be>). Reservations will be made by the JRC-IRMM.

Transfers

Transfer from the airport to the hotel upon arrival at your own convenience. Transfer from the hotel to the JRC-IRMM and back to the hotel will be organised. Transfer from the JRC-IRMM to the airport will be organised.

Location

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Registration

Please send an e-mail to
jrc-irmm-rm-course@ec.europa.eu

The number of participants is restricted to approximately 30. Registrations will be handled on the basis of "first come, first served".

Deadline for registration: 2nd March 2008

Registration fee

€300 - including lunches, social dinner on the 2nd of April 2008 and the transport between the hotel and the JRC-IRMM as well as transport from IRMM to the airport on the 3rd of April 2008. Accommodation costs are not included in the registration fee.