Uncertainty in Sampling
Nordtest Workshop 12-13 April 2007, Pharmakon Conference Center, Hillerød, Denmark

PROGRAMME

DAY 1

09.30 Registration

10.00 Introduction to measurement, sampling and analytical uncertainty
   Mike Ramsey, University of Sussex

10.30 Why estimate sampling uncertainty? An example from the food industry
   Bertil Magnusson, SP

11.00 The Nordtest guide on sampling uncertainty - an introduction
   Christian Grøn, DHI

11.15 Design of sampling programmes
   • Sampling purpose - why do we measure
   • Sampling target - what shall we measure
   • Quality objectives - demands on uncertainty
   Christian Grøn, DHI

11.45 Break

12.00 Error and uncertainty in measurement
   • Sources of uncertainty - heterogeneity, sampling and analytical uncertainty
   • Systematic and random errors
   • Uncertainty - u and U
   Astrid Nordbotten, Mattilsynet

12.30 Principles of QA in sampling
   • Competence requirements
   • Method validation
   • Quality control
   • Documentation
   Ulla Lund, Eurofins

13.00 Lunch

14.15 Sampling uncertainty of industrial emission measurements
   • Principles of variography
   • Uncertainty vs. sampling frequency
   • Application to wastewater discharge and gaseous emissions
   Pentti Minkkinen, Lappeenranta University of Technology

14.45 Groundwater monitoring example featuring:
   • Quality objectives and quality control
   Christian Grøn, DHI

15.30 Coffee

16.00 Industrial production of iron ore example featuring:
   • Range statistics for control of random error
   Bertil Magnusson, SP

DAY 2

09.00 Wastewater discharge example featuring:
   • Variography
   Ulla Lund, Eurofins

09.45 Contaminated soil example featuring:
   • Robust ANOVA (ROBAN)
   Katy Boon, University of Sussex

10.00 Break

10.45 Introduction to group work
   Bertil Magnusson, SP

11.00 Group work on own data or data from the examples

12.00 Lunch

13.00 Group work, continued.

13.15 Group work, continued.

15.00 Coffee and discussions - future perspectives on sampling uncertainty
   Christian Grøn, DHI

16.00 End of workshop
WORKSHOP INFORMATION
The participants are expected to bring their own laptops, but power supply will be available (Scandinavian sockets).

The Nordtest Handbook on Uncertainty from Sampling will be sent in advance of the workshop to the participants including a CD with selected calculation tools.

Data for the group work that the participants may wish to use as calculation examples should be brought along but can preferentially be e-mailed to aob@dhigroup.com one week in advance of the workshop.

Dates
12-13 April 2007

Place
Pharmakon Conference Center, situated in Hillerød north of Copenhagen, Denmark, see www.pharmakon.com.

Language
The workshop language will be English.

Registration
Submit the registration form before 1 February 2007. If you have not registered yet, please use the form to the right.

Fee
Registration and payment before 1 February 2007: 500 EURO. Later registration and payment: 620 EURO. The workshop fee covers workshop, textbook, lunch, coffees and conference dinner, but not travelling and hotel.

Poster session
There will be a small poster session for those attending the conference and who want to present research in the field of uncertainty in sampling.

If you wish to present a poster (110 cm x 110 cm), please include its title on the registration form. A summary of the proposed poster should be sent to aob@dhigroup.com before 1st March 2007 and the final poster in low resolution in PDF-format before 1st April 2007.

Further information
For the latest information, flyer and registration details see www.samplersguide.com.

Specific questions can be directed to Anke Oberender, DHI, aob@dhigroup.com, +45 4516 9469

Registration Form
Yes, I wish to participate:
Name: ...............................................
Company: ...........................................
Address: .............................................
........................................................
Mail: ................................................
City: ..................................................
Country: .......................................... 
Signature: ...........................................

Yes, I wish to present a poster: □
Title: .................................................

Post, fax or e-mail this page to:
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Last registration date:
1 February 2007