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COMBINING
AND REPORTING
ANALYTICAL
RESULTS.
THE ROLE OF
(metrological)
TRACEABILITY AND
(measurement)
UNCERTAINTY FOR
COMPARING
ANALYTICAL RESULTS

Rome, 6-8 March 2006

Final Programme



APAT
Agenzia per la protezione dell'ambiente
e per i servizi tecnici



ROME, 6-8 MARCH 2006



APAT

Agenzia per la protezione dell'ambiente
e per i servizi tecnici

ORGANIZED BY



Agenzia per la protezione dell'ambiente e per i servizi tecnici (APAT)
International Union of Pure and Applied Chemistry (IUPAC)

SPONSORED BY



IAEA

Centro Sviluppo Materiali S.p.A. (CSM)
International Atomic Energy Agency (IAEA)
Consultative Committee for Amount of Substance -
Metrology in Chemistry (BIPM CCQM)
Co-operation on International Traceability in
Analytical Chemistry (CITAC)
ISO Committee on Reference Materials (ISO REMCO)
United Nations Industrial Development Organization (UNIDO)

PROGRAM COMMITTEE

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INTERNATIONAL WORKSHOP

COMBINING AND REPORTING ANALYTICAL RESULTS. THE ROLE OF (METROLOGICAL) TRACEABILITY
AND (MEASUREMENT) UNCERTAINTY FOR COMPARING ANALYTICAL RESULTS

COMBINING AND REPORTING ANALYTICAL RESULTS. THE ROLE OF (METROLOGICAL) TRACEABILITY AND (MEASUREMENT) UNCERTAINTY FOR COMPARING ANALYTICAL RESULTS**BACKGROUND AND AIM OF THE WORKSHOP**

Many important decisions are based on quantitative (analytical) measurement results. For example, for checking the compliance of environmental quality to legislative limits, in assessing the status of the environment or the food quality, the users of analytical results (decision makers, scientific users, etc.) need reliable analytical data. Confidence in data obtained in different laboratories at national and international levels is a prerequisite to reach this objective.

There is now a formal requirement for laboratories to introduce quality assurance measures to ensure and to demonstrate that they are capable of providing data of the required quality. Such measures include between the others: the use of validated methods of analysis; the use of internal quality control procedures; participation in proficiency testing schemes; accreditation based on relevant standards (e.g. the ISO 17025 standard), and establishing metrological traceability of their measurements results, which have to be reported with their associated uncertainties.

In many measurement areas (chemical and biological analysis) some of the above listed requirements are still not always fulfilled. The ways, how to do it, are still under discussion. For example:

- A degree to which the results obtained by different analytical methods or in different laboratories are expected to agree.
- Metrological traceability and accepted stated references (defined measurement standard or SI units).
- Approaches to quantification, reporting and use of information on uncertainty associated with single or combined measurement results.
- Methods used in laboratory performance assessment (e.g. proficiency tests).

The aim of the workshop is to review and compare current practices from various measurement areas and fields in dealing with above listed topics. It should provide a ground for better understanding, exchange of views and open eventual pathways for improvements and harmonization.

WORKSHOP VENUE

The Workshop will be held in Rome at Italian Environmental Protection Agency (APAT) Laboratories, within the Materials Research Centre "Centro Sviluppo Materiali S.p.A.". The place of the workshop is located in Castel Romano district, in Via di Castel Romano, 100 - 00128 - Rome - Italy

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ROME

Rome, well known as a thousand years old city, doesn't require a presentation! Just it may be remembered it is the Holy See of the Papacy and focal point for artists all around the world from Renaissance on, open laboratory for "full scale" experimentation during baroque and, finally, capital of Italy after 1870. The countless inimitable results are on displaying for everybody strolling streets, squares and any corners of the not well known Rome. Every culture left here unique imprints you can pick up and choose and fix in your mind or camera then melt with the toppest offer of the today living city of culture (museums, world level exhibitions, music) fashion, shopping, excellent "slow food", tender climate, attractive surroundings and warm welcome by roman people.

HOW TO GET TO ROME

- By car: motorways connect Rome to the most important cities of Italy and Europe (Highway A1 from Milano and from Napoli)
- By train: Rome is well served by trains. Fast connection by EUROSTAR trains is available between Rome and the main Italian towns, as well as from other European cities. Further information on website: www.trenitalia.it.
- By plane: Rome has two main airports for passengers transportation, FIUMICINO (Leonardo da Vinci) and CIAMPINO (G.B. Pastine). Both airports are well connected with Rome through trains, buses (from Airport to Main Railway Station "Roma Termini") and taxi. We strongly advise to use only the white licensed taxi with meters. Detailed information are easily found on www.adr.it website.

HOTEL ACCOMODATION AND PUBLIC TRANSPORT

Please make your hotel reservation at your earliest convenience. We advice, anyway, to book the hotel as soon as possible, taking into account the high presence of tourists over all the year. Please notice that no official workshop agency is operating.

An indication of hotels, among the citycenter and Eur zone is listed hereinafter.

While booking the hotel, consider that the meeting point of the shuttle bus service established by the workshop's organization to move the participants towards the workshop location will be in EUR zone (suburb of Rome and business zone).

A wider list of hotels in Rome is available on www.romaclick.it website.

The meeting point is easily reachable from the citycenter by underground.

Rome is served by bus and underground services, consultable through the website: www.metroroma.it (underground service), www.atac.roma.it (bus service), and by taxi too. (suggested taxi number: +39-06-5551, +39-06-4157, +39-06-3570, +39-06-6645).

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HOTEL ACCOMODATION AND PUBLIC TRANSPORT

Please refer to **APAT-IUPAC Workshop** when you will make your hotel reservation and, in any case, consider that the rates are indicative because subject to specific variations according to the hotel marketing policy.

CITY CENTER
HOTEL MERCURE DELTA COLOSSEO****

Via Labicana, 144
Tel.+39-06-7001874 fax +39-06-7005781
www.accorhotels.com
Single B/B € 133,00 - Double use € 166,00

HOTEL BRITANNIA****

Via Napoli, 64
Tel. +39-06-4883153 Ffax +30-06-4882343
www.hotelbritannia.it
Double use B/B € 168,00

HOTEL MEDITERRANEO***

Via Cavour, 15
Tel. +39-06-4814276 Fax 39-06-4744105
www.bettojahotels.it
Single B/B € 147,00 - Double use € 196,00

HOTEL AMALIA***

Via Germanico, 66
Tel. + 39-06-39723356 - Fax +39-06-39723365
www.hotelamalia.com
Single B/B € 104,00 - Double use € 155,00

HOTEL COLUMBIA***

Via del Viminale, 15
Tel. 39-06-4883509 -
www.hotelcolumbia.com
Single B/B € 111,00 - Double use € 132,00

HOTEL ARTDECO****

Via Palestro, 19
Tel. 39-06-4457588 Fax 39-06-4441483
www.travel.it/roma/artedeco
Single B/B € 120,00 - Double use € 155,00

HOTEL PRESIDENT****

Via Emanuele Filiberto, 173
Tel +39-06-770121 Fax +39-06-7008740
www.bestwestern.it
Single B/B € 118,00 - Double use € 129,00

HOTEL UNIVERSO***

Via Principe Amedeo, 5/b
Tel. +39-06-476811 Fax +39-06-4745125
www.bestwestern.it
Single B/B € 132,00 - Double use € 148,00

HOTEL SAN VALENTINO****

Via Ezio, 55
Tel. + 39-06-3240555 - Fax +39-06-3216515
Single B/B € 100,00 - Double use € 115,00

FORTIS' GUEST HOUSE**

Via Fornovo, 7
Tel. +39-06-3200738 Fax +39-06-3212222
Single B/B € 52,00 - Double use € 89,00

EUR ZONE
HOTEL SHERATON****

Via del Pattinaggio, 100
Tel. +39-06-54531
www.sheraton.com/roma
Single B/B € 227,00 - Double use € 252,00

VILLA EUR PARCO DEI PINI

P.le Marcellino Champagnat, 2
Tel. +39-06-54220627
www.villaeur.it
Single B/B € 71.50 - Double use € 88,00

HOTEL DEI CONGRESSI****

Viale Shakespeare, 29
Tel. +39-06-5926021
www.hoteldeicongressiroma.com
Single B/B € 135.00 - Double use € 150,00

TRANSPORTATION



Transportation will be provided during the workshop period to help participants in reaching the Workshop and Social Dinner venues. A bus transfer from the nearest underground station - EUR Palasport (M3 station of Line B) - to APAT and vice-versa, will be organized in the morning and at the end of the sessions (6th, 7th, 8th March). The bus transfer (TROTТА Service) meeting point is upstairs the station EUR Palasport, in Viale America, just in front of BELVEDERE BAR (departures from EUR Palasport-meeting point - see the map).

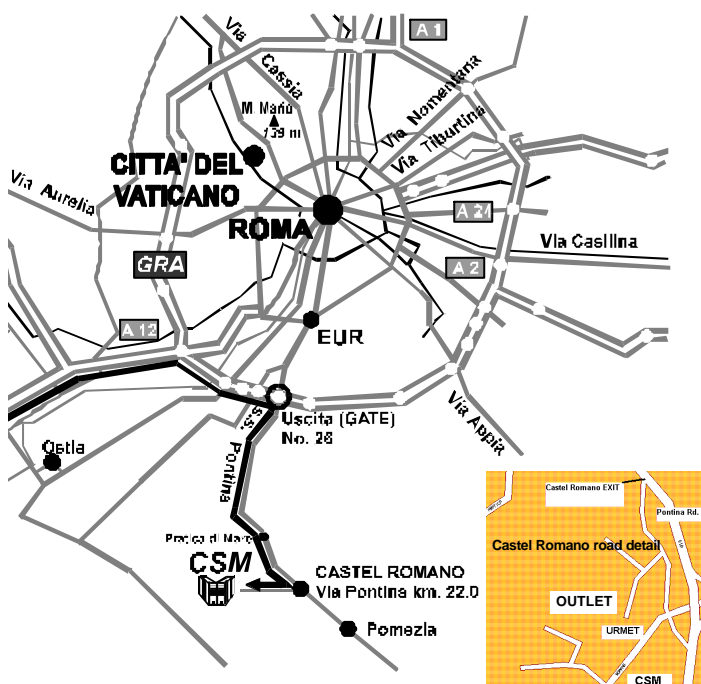
Timetable are hereafter reported:

Timetable - Bus for Workshop Location

	6 th March	7 th March	8 th March
From Eur Palasport to Workshop Location	8.00	8.00	8.45
From Workshop Location to Eur Palasport	18.30	17.45	17.00

A transport to Fiumicino Airport is foreseen on 8th March at 17.00. The cost of this service is included in the workshop fee.

HOW TO REACH BY CAR THE WORKSHOP LOCATION



- 1) By car from the "Leonardo da Vinci" Fiumicino airport: Take the high way "Roma-Fiumicino" to Roma till the Grande Raccordo Anulare (GRA). Take the GRA, south direction (Napoli), till the Pontina exit (direction Pomezia/Latina)
- 2) Take the Pontina road till the "Castel Romano/Zona industriale" exit (about 15 km from the GRA, it comes after the "Pratica di Mare" exit). Follow the main street and the signs, drive living the "URMET" company on your right till you reach CSM on your left.
- 3) By car from "down town": reach the EUR area then take the Pontina road (see point 2)

INTERNATIONAL WORKSHOP

COMBINING AND REPORTING ANALYTICAL RESULTS. THE ROLE OF (METROLOGICAL) TRACEABILITY AND (MEASUREMENT) UNCERTAINTY FOR COMPARING ANALYTICAL RESULTS

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SOCIAL DINNER

A Social Dinner has been designed to give participants the opportunity of meeting informally and enjoy Rome's atmosphere.

It will be held on the evening of 7th March 2006. The location and timetable for dedicated bus transfer service will be decided upon the number of reservations and it will be communicated during the Workshop. The Social Dinner is included in the registration fee. Accompanying person needs an additional payment of € 80,00.

In order to book your place at the dinner, please confirm your adhesion, including the name of the accompanying person, by email at the following email-address, as soon as possible: apat.iupac@apat.it. Reservation received after February 10th will not be guaranteed.

REGISTRATION FEE

Workshop participant: € 320,00 - VAT included (**Before** February 3, 2006)
€ 400,00 - VAT included (**After** February 3, 2006)
€ 80,00 - VAT included - for accompanying person at social dinner

Registration fee includes:

- Book of abstracts and Proceedings
 - Attendance at the technical sessions
 - Lunches and Coffee breaks during the Workshop
 - Social dinner
 - Transport service from/to EUR Palasport Metro Station to/from the workshop location.
- Participants are kindly asked to send the attached registration form by fax no. +39-06-5050519. Registration on-line is possible on www.apat.gov.it.

PAYMENT, CANCELLATIONS AND REFUNDS

The payment of registration fee (including accompanying person) must be done:

- By bank transfer to the order of:
CENTRO SVILUPPO MATERIALI S.p.A. - CSM
at "MONTE DEI PASCHI DI SIENA"
Ag. 11 - Piazza dei Navigatori, 13 - Roma - Italy
IBAN CODE: IT 360 01030 03211 000000177845
SWIFT CODE: PASCITMM
The transfer order must specify the name of the delegate and of the eventual accompanying person to the social dinner, as well as the reference "COMBINING AND REPORTING ANALYTICAL RESULTS - International Workshop".

OR

- By non-transferable bank cheque, negotiable in Italy, to the order of "CENTRO SVILUPPO MATERIALI S.p.A.", just in case you could not manage for a bank transfer order.

ROME, 6-8 MARCH 2006

PAYMENT, CANCELLATIONS AND REFUNDS

A copy of the transfer order must be sent by fax to APAT - att.n Mr. Fabrizio Babalini (+39065050519) and to CSM - att.n Mrs. Sandra Fulgenzi (+39065055481). Please note that the bank order must be forwarded specifying, in the reason for payment, that "expences are not to be charged to the recipient". Receipted invoice will be sent to the Company or to the private person, by the time Centro Sviluppo Materiali S.p.A. visualize the effective payment of the registration fee

On-site cash payment it is NOT foreseen.

For cancellation, written notification should be sent by e-mail (apat.iupac@apat.it) or by fax (+39 065050519). An administrative charge of 20% will apply to cancellation made BEFORE February 2, 2006. NO REFUNDS will be made on cancellations made after this date. Substitutes will be accepted at any time.

PRESENTATIONS

Oral presentation are limited to 15 minutes. Computers and video projectors will be available.

Poster should be prepared to fit within the 90 cm (width) x 110 cm (height). Authors are kindly required to post up the presentation on Monday (March 6) morning and remove it by Wednesday (March 8). They are invited to summarize the main poster's content by a short oral presentation (not more than 5 minutes) during the related Session.

PROCEEDINGS

Full papers of all invited speakers and the more relevant presentations will be peer-reviewed and published in a proceedings book by the Royal Society of Chemistry.

LANGUAGE

English will be the official working language of the Workshop.

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FINAL PROGRAMME
March 6, 2006

 08.30 09.00 Registration
 09.00 09.15 Opening

SESSION 1: THE METROLOGICAL ISSUES IN THE INTERNATIONAL CONTEXT

INVITED SPEAKERS

- 09.15 09.40 **Metrological Traceability - Stating the Problem and IUPAC Perspective**
 Paul DE BIEVRE (Belgium, Representing IUPAC), Ales FAJGELJ (Austria, International Atomic Energy Agency IAEA), Representing IUPAC, ISO/REMCO)
- 09.40 10.05 **Environmental Metrology: the Italian Approach**
 Maria BELLI (Italy, Agenzia per la protezione dell'ambiente e per i servizi tecnici - APAT)
- 10.05 10.30 **Comparability and Quality of Experimental Data Under Different Quality Systems**
 Sergio CAROLI (Italy, Istituto Superiore di Sanità - ISS)
- 10.30 10.55 **The Role of Traceability in Sustainable Development and Trade: the UNIDO Approach**
 Otto LOESENER (Austria, United Nations Industrial Development Organization, UNIDO)
- 10.55 11.15 **Coffee Break**
- ORAL PRESENTATIONS
- 11.15 11.30 **Combination of Results from Several Measurements, Metrological or Management Effort**
 Werner HAESSELBARTH, Wolfram BREMSER (Germany, Federal Institute for Materials Research and Testing)
- 11.30 11.45 **Quality Assurance of Chemical Measurements, Metrological or Management Effort**
 Mirko PROSEK (Slovenia, National Institute of Chemistry)
- 11.45 12.00 **A New Opportunity for the Thermal Metrology Community and for the Associated Chemical Communities: The Evitherm Society**
 Franco PAVESE (Italy, Evitherm c/o Istituto Nazionale di Ricerca Metrologica -INRIM)
- 12.00 13.00 **ROUND TABLE SESSION 1**
- 13.00 14.00 **Lunch**

SESSION 2: TRACEABILITY AS A CHALLENGE FOR THE ANALYSTS

INVITED SPEAKERS

- 14.00 14.25 **Metrological Characteristics of the International Conventional Measurement Scales for Hydrogen and Oxygen Stable Isotope Amount Ratios**
 Manfred GROENING (Austria, International Atomic Energy Agency IAEA)
- 14.25 14.50 **Traceability of Air Quality Measurements (Ozone Italian Experience)**
 Maria Paola SASSI (Italy, Istituto Nazionale di Ricerca Metrologica - INRIM)
- 14.50 15.15 **Metrological Traceability and Uncertainty of Measurement Results in Clinical Chemistry**
 Anders KALLNER (Sweden, Karolinska Hospital Dep. of Clinical chemistry, Representing IUPAC Chemistry and Human Health Division)
- ORAL PRESENTATIONS
- 15.15 15.30 **Traceability of pH in a Metrological Context**
 G. MEINRATH (France, RER Consultants)
- 15.30 15.45 **Determination of PCBs in Organic Solution: an Example of Traceability Chain**
 Michela SEGA (Italy, Istituto Nazionale di Ricerca Metrologica, INRIM)
- 15.45 16.05 **Coffee Break**
- 16.05 17.00 **ROUND TABLE SESSION 2**
- 17.00 18.00 **POSTER SESSION**
- ➔ **The Place of Metrological Traceability in Quality Control Procedures for EDXRF Measurement Results**
 S. A. BAMFORD (Austria, International Atomic Energy Agency, Agency's Laboratories Seibersdorf - IAEA)
 - ➔ **Traceability of Measurements in Pesticide Residues Analysis of Foodstuffs**
 G.F.C. CAMOES (Portugal - Faculdade de Ciências da Universidade de Lisboa - CECUL/DQB)
 - ➔ **Uncertainty Analysis and Traceability in the Measurement of Air Pollution by Ozone with the Photometric Method**
 A. CAMPO (Italy, Department of Environmental Engineering and Sustainable Development, Polytechnic of Bari)
 - ➔ **Metrological Traceability for Analysis of Urine Samples at IAEA**
 Antonio CAPOTE-CUELLAR (Austria, International Atomic Energy Agency - IAEA)

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SESSION 2: TRACEABILITY AS A CHALLENGE FOR THE ANALYSTS

17.00 18.00 POSTER SESSION

- Integrated Remote Sensing and GIS Approach for Delineating the Ground Water Potential Zones in Giri Catchment, Utthanchal Pradesh, India
D.M.D.O.K. DISSANAYAKE (India)
- Quality Control of pH Measurements through Comparison of Primary and Secondary Apparatuses
Paola FISICARO (Italy, Istituto Nazionale di Ricerca Metrologica - INRIM)
- Metrology in Complex Situations: Experiences With Thermodynamic Data
G. MEINRATH (France, RER Consultants)
- Some Traceability Problems in Analytical Assays of Interest in Thermal Metrology
Franco PAVESE (Italy, Evitherm c/o Istituto Nazionale di Ricerca Metrologica - INRIM)

March 7, 2006

SESSION 3: THE UNCERTAINTY IN COMBINING AND REPORTING DATA

INVITED SPEAKERS

08.45 09.10 Developments in Uncertainty Evaluation: the Activity of JCGM/WG1

Walter BICH (Italy, Istituto Nazionale di Ricerca Metrologica - INRIM)

09.10 09.35 How to Combine Results Having Stated Uncertainties

MDavid Lee DUEWER (USA, NIST, Representing CIPM CCQM)

09.35 10.00 Uncertainty and Traceability the View of the Analytical Chemist

Gemma RAURET (Spain, University of Barcellona)

ORAL PRESENTATIONS

10.00 10.15 Harmonization of Terminology for the Quantification of Measurement Uncertainty

G.F.C. CAMOES (Portugal - Faculdade de Ciências da Universidade de Lisboa - CECUL/DQB)

10.15 10.30 Propagating Non-Normally Distributed Uncertainty - The LJUNGSKILE Code

Ch. EKBERG (Sweden, Chalmers University of Technology, Nuclear Chemistry Group)

10.30 10.45 A Systematic Approach in the Evaluation of Uncertainty in Analytical Chemistry. Application to ICP-AES Analysis

Giovanna ZAPPA, (Italy, ENEA Research Centre Casaccia ROME)

10.45 11.05 Coffee Break

11.05 12.00 ROUND TABLE SESSION 3

12.00 12.50 POSTER SESSION

- Self Referring Procedure for the Full Calibration of a Dynamic Gas Divider
Roberto BELTRAMINI BOVERI (Italy, Be.T.A. Strumentazione Srl)
- Investigation of Uncertainty Related to Measurements of Particulate Organic Pollutants
Angelo CECINATO and Catia BALDUCCI, (Italy, CNR, Istituto sull'Inquinamento Atmosferico)
- Micronucleus Test in Fish Peripheral Erythrocytes: Variability in the Microscope Scoring
Daniela CONTI (Italy, Agenzia per la protezione dell'ambiente e per i servizi tecnici - APAT)
- Time-Series Analysis of Efficiency Control Measurements in Gamma-Ray Spectrometry
A. LIKAR (Slovenia, Jozef Stefan Institute - JSI)
- Estimation of Measurement Uncertainty for the Determination of Pesticide Residue in Water
F. PECORARO, R. VISTOCCO (Italy, Agenzia Provinciale per la Protezione dell'Ambiente di Bolzano)
- Evaluation of Uncertainties in Gamma Spectrometry: Application to Radioecological Problem
Naivo RABESIRANANA (Madagascar, Institut National des Sciences et Techniques Nucléaires - INSTN)
- Evaluation of Intrinsic Uncertainty in k_0 - NAA
Borut SMODIS (Slovenia, Jozef Stefan Institute - JSI)
- Reporting of Uncertainty in Environmental Monitoring of Radionuclides
Beáta VARGA, Sándor TARJÁN (Hungary, National Food Investigation Institute (NFII))
- Digestion Protocol Validation/Determination of Trace Metals in Staple Foods by DPASV
VIQAR-UN-NISA (Pakistan, Institute of Nuclear Science and Technology)

12.50 13.50 Lunch

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SESSION 4: UNCERTAINTY AND TRACEABILITY: THE ROLE OF REFERENCE MATERIALS

INVITED SPEAKERS

- 13.50 14.15 The Use of Reference Materials in International Reference Measurement Systems and for Comparison of Analytical Data
Hendrik EMONS (Belgium, IRMM JRC, EC, Representing ISO REMCO)
- 14.15 14.40 NMIJ Policy on CRM Development - The Way to Realize the SI Traceable Matrix CRMs
Koichi CHIBA (Japan, National Metrology Institute of Japan and AIST)
- 14.40 15.05 Establishing Traceability for Consensus Means
Steve WOOD (UK, Laboratory of Government Chemists LGC, Representing ISO REMCO)
- 15.05 15.30 Reference Materials for Waste Analysis
Stefania BALZAMO (Italy, Agenzia per la protezione dell'ambiente e per i servizi tecnici - APAT), Fabrizio FALCIONI (Italy, Centro Sviluppo Materiali, S.p.A. - CSM)
- ORAL PRESENTATIONS
- 15.30 15.45 Data Combination Strategies: Approaches and Examples from BAM Expertise in RM Certification
Wolfram BREMSER (Germany, Federal Institute for Materials Research and Testing - BAM)
- 15.45 16.05 Coffee Break
- 16.05 17.00 ROUND TABLE SESSION 4
- 17.00 17.30 POSTER SESSION
- ➔ Estimation of Uncertainty and Monitoring Quality Data in the Determination of Aqua Regia Soluble Metals in Soil
G.M. BEONE (Italy, Istituto di Chimica Agraria ed Ambientale, Università Cattolica del Sacro Cuore)
 - ➔ The CSM Approach to the Calculation of the Uncertainty in XRF Analysis of Low- and High-alloyed Steels
Elena CELIA (Italy, Centro Sviluppo Materiali, S.p.A. CSM)
 - ➔ Determination of Arsenic, Lead and Selenium in Fish Tissue by ICP-MS Analysis: Method Validation and Uncertainty Statements
Damiano CENTIOLI (Italy, Agenzia per la protezione dell'ambiente e per i servizi tecnici - APAT)
 - ➔ Quality Assessment of k_0 -INAA by Analysis of Different Reference Materials with Inorganic Matrices Using the KAYZERO/SOLCOI Software
Radojko JACIMOVIĆ, Zvonka JERAN (Slovenia, Jozef Stefan Institute - JSI)
 - ➔ Handbook for Internal Quality Control in Analytical Laboratories - The Trollbook
Bertil MAGNUSSON (Sweden, Swedish National Testing and Research Institute)
 - ➔ The Importance of the Measurement Uncertainty in the O.E.S. Chemical Analysis of Metal Alloys
A. VECCHI (Italy, T&C-Eurolab)

March 8, 2006

SESSION 5: IMPROVING THE QUALITY OF THE DATA THROUGH A CONTINUOUS COMPARISON BETWEEN THE LABORATORIES

INVITED SPEAKERS

- 09.15 09.40 Comparison of Different Approaches to Evaluate Proficiency Test Data
Umberto SANSONE (Austria, International Atomic Energy Agency IAEA)
- 09.40 10.05 Distribution of Proficiency Testing Results and their Comparability
Ilya KUSELMAN (Israel, National Physical Laboratory of Israel, Representing CITAC)
- 10.05 10.30 Proficiency Testing: Needs, Approach and Perspectives in Italy
Paolo de ZORZI (Italy, Agenzia per la protezione dell'ambiente e per i servizi tecnici - APAT)
- 10.30 10.55 Proficiency Testing in the Biomedical Field: from Definitions of Targets to Use of PT/EQAS Data by End-Users
Marina PATRIARCA, Antonio MENDITTO (Italy, Istituto Superiore di Sanità, ISS)
- 10.55 11.15 Coffee Break
- ORAL PRESENTATIONS
- 11.15 11.30 Measurement Uncertainty and its Role in Proficiency Testing Scheme - Case Study ILC Waste Water
Magda COTMAN (Slovenia, National Institute of Chemistry)
- 11.30 11.45 The Proficiency Testing of Laboratories: a First Approach to Implement Bayesian Methods in the Assessment of Performance
M.L. ROMERO (Spain, CIEMAT)
- 11.45 12.00 The E_n , U score and Accuracy Parameters - A Topic to Debate
Em. CINCUI (Romania, National Institute for Physics and Nuclear Engineering - IFIN-HH)

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**SESSION 5: IMPROVING THE QUALITY OF THE DATA THROUGH A CONTINUOUS
COMPARISON BETWEEN THE LABORATORIES**

- 12.00 13.00 ROUND TABLE SESSION 5
- 13.00 14.00 Lunch
- 14.00 14.30 POSTER SESSION
- Determination of Radionuclides in Foodstuff and Environmental Samples at CPHR: Traceability and Uncertainty Calculation
Jorge A. CARRAZANA GONZÁLEZ (Cuba, Center of Radiation Protection and Higiene -CPHR)
 - Collaborative Study for Pesticides Residues Determination in Water Samples
Vittoria GIUDICE (Italy, Agenzia Regionale per la Protezione dell'Ambiente Regione Sicilia - ARPA Sicilia)
 - Gross α/β Measurements in Drinking Waters by Liquid Scintillation Technique: Validation and Interlaboratory Comparison Data
I. LOPES, (Portugal, Nuclear and Technological Institute)
 - Monitoring of Surface Water in Wallonia Impact of the Uncertainty of Measurement on the Conformity Assesment of Piscicultural Sites
Philippe MAETZ (Belgium, Institut Scientifique de Service Public)
 - Determination of Non-Volatile Ions and Elements in Airborne Particulate Matter: Development of a Sample-By-Sample Quality Control Scheme
C. PERRINO (Italy C.N.R. Institute for Atmospheric Pollution)
 - Improvement of a Radiochemical Laboratory by Fourteen Years Participation in an Intercomparison Program
M.H.T.TADDEI, (Brazil, Comissão Nacional de Energia Nuclear - CNEN)
- 14.30 16.30 WORKSHOP CONCLUSION - "Quid agam?" (Actions for tomorrow)

INTERNATIONAL WORKSHOP

**COMBINING AND REPORTING ANALYTICAL RESULTS. THE ROLE OF (METROLOGICAL) TRACEABILITY
AND (MEASUREMENT) UNCERTAINTY FOR COMPARING ANALYTICAL RESULTS**

REGISTRATION FORM

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ADDRESS _____

TOWN _____ ZIP CODE _____

PROVINCE/COUNTRY _____

PHONE _____ FAX _____

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VAT INTRA-COMMUNITY IDENTIFICATION NR. _____

Please fax (preferred) or mail your registration form to:

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