

## Eurachem Newsletter 18

### Summer 2000

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Published by:

The EURACHEM Secretariat, BAM, D-12200 BERLIN , GERMANY

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**Editor: Wolfram Bremser , BAM, Germany.**

*Additional copies available from EURACHEM Secretariat costing*

*1-9 copies free, 10 copies DM 30, 25 DM 60, 50 DM 90, 100 DM 165, 200 DM 270*

Production, printing and postage of this Newsletter was supported and funded by the Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany.

*No liability is accepted for the accuracy of information and the views expressed are not necessarily the official policy of member countries' governments.*

**ISSN 1560-3490**

## Eurachem News Summer 2000

### EURACHEM Gears up for 2005

EURACHEM held its Annual Meeting 2000 on 23-26 May in Berlin at the Federal Institute for Materials Research and Testing (BAM). The programme included meetings of the Executive Committee, the Full Committee, and several working groups. In some aspects, the event resulted in a fundamental organisational renovation: With the rapidly changing European political landscape and the extension of the European Community, a renewal of the basics for EURACHEM businesses fell due. The EURACHEM Full Committee responded to the challenge and adopted a new Memorandum of Understanding. As one of the consequences the (former) Full Committee will carry on as the EURACHEM General Assembly.

The Berlin meeting of EURACHEM also reconsidered, extended and further developed the mission, key objectives and the work programme in the "EURACHEM 2005" document.



*The new team at the top (from right to left.): Vice Chair Filomena Camoes (University of Lisbon), EURACHEM Chair Ed de Leer (NMI Delft), and Past Chair Veikko Komppa (VTT Espoo).*

In accordance with the EURACHEM Terms of Reference and on schedule, the EURACHEM Chair, held by Veikko Komppa from VTT Chemical Technology, Finland, was handed over to Ed de Leer

from The Netherlands Measurement Institute. EURACHEM pays tribute to Prof Komppa for his tireless activity in developing and fostering our organisation. Prof V Komppa will remain in the EURACHEM Executive Committee as Past Chair for two more years.

**For all information on the event, see the comprehensive reports inside this issue.**

## **EURACHEM Guides became recently available:**

### **"Quantifying Uncertainty in Analytical Measurement", 2nd Edition.**

This is the completely revised version of the 1995 edition, responding to experiences from two workshops and many helpful comments from all over the world.

### **"Selection, Use and Interpretation of Proficiency Testing (PT) Schemes by Laboratories 2000"**

A completely new guide intended to give advice to laboratories, accreditation bodies, customers of laboratories and regulatory authorities on how to select PT schemes appropriate to their needs.

## **Proficiency Testing in Accreditation of Testing in Accreditation of Testing Laboratories - A Personal View**

First of all, I am a supporter of proficiency testing (PT) as such and as a key element in accreditation for laboratories in proving technical competence.

Nevertheless, this declaration is based on some presumptions.

### **Voluntariness**

As a rule participation in proficiency testing is voluntary. Justified exceptions are already made possible by the respective standards.

It is indisputable that PT is one of the important tools in proving the equivalence of test results. Therefore already the standards EN 45001 and EN 45003 give accreditation bodies the authority to require participation when "reasonably deemed to be necessary" by the body. And the future ISO/IEC 17025 states that the monitoring assuring the quality of test results may include participation in interlaboratory comparisons or proficiency testing programmes.

As a logical consequence EA, its associate members and accreditation bodies recommend the participation of the accredited laboratories in PT. That is reasonable as long as the term recommendation can be taken literally.

On its own the availability of a PT programme should not give sufficient reason for requiring participation. We need the inclusion of the accreditation bodies as a supplementary provision. The mandatory participation can be limited to special cases, when the respective accreditation body deems participation of its accredited laboratories is appropriate.

### **Free Choice**

The laboratories and the accreditation bodies must have the free choice of the PT provider and the PT scheme.

The accreditation of a testing laboratory shall not depend on the use of accredited proficiency providers. Only the technical soundness of the PT scheme has to be taken as benchmark for selection and acceptance. Mandatory accreditation of PT providers shall neither take place nor given preference in selection. Accreditation of PT providers shall be done only on a voluntary basis. Competence of a provider should have priority over formalism. Within the accreditation process no difference should be made between technically sound PT schemes from accredited and non-accredited providers

The development shall be market-driven. Until now the desirability and need for the accreditation of PT providers has not yet been verified sufficiently for all stakeholders, especially not for the community of the affected analytical testing laboratories.

### **Costs**

Dont forget about the costs! The laboratories want a system which is "fit for purpose" and not a perfectionist one. It shall be of utmost priority for all organisations affected that the balance of benefits and costs of accreditation does not become more and more unfavourable due to a too perfectionistic system and by unnecessarily amplified or added new requirements.

*Werner Steck  
EA Advisory Board,  
EURACHEM Germany*

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This personal opinion is intended to generate a (hopefully fruitful) discussion on the topic. The author is interested in any response from the analytical community in and outside Europe, both personally and -from a professional point of view - as input to EA Advisory Board.

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## **Editorial**

Don't be confused: Everything is new in and around EURACHEM. Given this, the Newsletter team felt a certain need to accommodate and renovate the layout of the Newsletter.

With the ever increasing number of EURACHEM member states (recently, three applications for membership were approved), it became difficult to spot full address lists of all EURACHEM contact points on the two last pages of the Newsletter. From now on, there will be only general information on the structure of EURACHEM and some key addresses. This will also free more space for information on topics in analytical chemistry in Europe. As before, readers may refer to the complete address data base available on the EURACHEM web site.

The EURACHEM Secretariat jumped on the bandwagon and moved to a new lab building.

Therefore, dear reader, please notice the new telephone and fax numbers. For getting in contact, dial 8104 (instead of 6392) and the corresponding extension.

Renovation is trendy these days: Our partner organisation EA formally became a legal entity according to Dutch law on 26 June 2000, and the last EA General Assembly adopted a new structure (with the EAAB playing a major role in preparation and making of decisions). Accordingly, the ToR of the new committees will be drafted during the next few months, and work programmes will be revised.

With ISO/IEC 17025, a substantial renovation of accreditation is under way. ILAC prepares a guidance document for accreditation to the new standard. But before migrating to ISO 17025, have a pleasant and sunny summer holiday!

*The Editor*

## **2nd Edition of the EURACHEM Guide "Quantifying Uncertainty in Analytical Measurement"**

The Uncertainty Working Group has now prepared a completely revised version of this guide. The first version (published in 1995) has been very widely used; two successful workshops on its utilisation have been held. Following from these workshops and the many helpful comments the working group has received, many significant changes and improvements have been made in this second edition.

The most important change deals with the use of existing method performance data and in particular the use of method validation data, from both collaborative validation studies and from in-house studies. The new sections dealing with the use of method performance data show that in many cases such data gives all, or nearly all information required to evaluate the uncertainty.

The format of the guide is very similar to that of the first edition with chapters 1 and 2 dealing with the scope and the concept of uncertainty. Chapter 3, Analytical Measurement and Uncertainty, is completely new and covers the process of method validation and conduct of experimental studies to determine method performance and their relationship to uncertainty estimation. There is also a new section on traceability.

The chapter dealing with uncertainty estimation has been considerably expanded and split into four separate chapters, dealing with the four steps involved in estimating uncertainty:

- (1) specification of the measurand,
- (2) identifying the uncertainty sources,
- (3) quantifying the uncertainty (this part has been considerably expanded to cover the use of existing method validation data), and
- (4) calculation of the combined uncertainty.

The examples have been completely revised and new ones added. They are all in a standard format, which follow the four steps described above, and they utilise the cause and effect diagram as an aid to identifying the sources of uncertainty and to ensuring that all the significant ones are included in the evaluation of the uncertainty.

This revised version of the EURACHEM guide can be downloaded free of charge from the

EURACHEM web site (<http://www.eurachem.bam.de/>). In addition the Working Group plans to set up a web site which will host the discussion forum on the application of the guide together with a site for the publication of additional examples. It is hoped that this new site will be available shortly. The Working Group would be delighted to receive comments on the guide. These can also be sent directly to me or Steve Ellison.

I would like to thank all the members of the WG for the constructive and sometimes lively discussions we have had on the contents of the Guide. I should particularly like to thank Dr Steve Ellison of the LGC, UK, who carried out the major task of editing the document and to Dr Matthias Rösslein of EMPA, Switzerland for all the work he did on the preparation of the examples.

[Alex Williams](#)

*Measurement Uncertainty Working Group Chairman*

## **EURACHEM Guide to the Selection, Use and Interpretation of PT Schemes by Laboratories**

A new guide is now available from EURACHEM: "Selection, Use and Interpretation of Proficiency Testing Schemes by Laboratories - 2000". This guide has an interesting history. In 1997, I co-wrote a guide entitled "An Introduction to the Interpretation and Use of PT Scheme Data" published under the UK Department of Trade and Industry's Valid Analytical Measurement (VAM) Programme. This guide was aimed to help laboratory staff, accreditation bodies and customers of laboratories to interpret PT scheme data more accurately. In The Netherlands, the EURACHEM Netherlands PT Group were, independently, considering writing a similar guide. Having read the LGC guide, the group, headed by Rob Visser of the Institute for Interlaboratory Studies (IIS) in Dordrecht, contacted me to suggest we co-operated. The idea of a EURACHEM guide on this subject was born.

The EURACHEM committee agreed that this guide could be developed. Following a meeting between myself and Rob Visser's group, and a number of draft documents being sent between the UK and the Netherlands by e-mail, a draft was ready for comment by the EURACHEM PT Mirror Group. The Group made a number of constructive comments, and a version of the guide was produced which is very little different from that which has been published. With agreement from the EEE Proficiency Testing Working Group and from EURACHEM committee members, and a few final modifications, the guide was finally ready for approval at the Berlin meeting of EURACHEM in May.

Anyone who has tried to make sense of complex reports from proficiency testing schemes will understand that this is a difficult task. My philosophy has always been to make these reports relatively simple, but even in such reports the level and volume of the information presented can cause problems for many readers. Many providers of good quality of PT schemes have stories to tell about mis-interpretation of PT scheme data, which has had serious consequences for staff, laboratories and customers of laboratories.

The guide, therefore, has the following aims:

\* To help laboratories evaluate available PT schemes and make the most appropriate choice for which one(s) they should participate in, if any

- \* To help staff at all levels within a laboratory (analyst, laboratory manager, quality manager) to interpret PT scheme data more accurately, and within the most appropriate context in order to make decisions and plan actions in a more effective manner
- \* To help customers of laboratories and accreditation bodies, interpret PT scheme data more effectively to aid their relationship with laboratories, and to manage their expectations

It is the intention of the EURACHEM PT Mirror Group, together with other PT professionals, to review the content of the guide on a continual basis with the aim of producing updated versions every few years. Proficiency testing as a subject has developed rapidly over the last 10 or so years, and we anticipate that this development will continue. The guide therefore needs to reflect such developments. Topics which may need to be considered for future editions may include the accreditation of PT scheme providers, and the incorporation of measurement uncertainty (MU) into PT. Of course, I would be happy to consider any appropriate topic to be included in future editions of the guide, and so I welcome any suggestions which readers of this article may have.

I hope the guide will fulfil its aims and provide the analytical community with a valuable tool to help in the complex task of gaining greater understanding of the complexities of proficiency testing schemes, and their outputs. On behalf of the EURACHEM PT Mirror Group, I commend the guide to you, and hope that it becomes a useful addition to the documentation regularly used by laboratories, their customers and other interested parties throughout Europe in the next few years.

*Nick Boley*

*EURACHEM PT Mirror Group Chair*

The draft version of this new guide has been, the final version will soon be downloadable free of charge from the EURACHEM website at <http://www.eurachem.bam.de/>

## **New Chair**



Ed W.B. de Leer's career has been based solely in the Dutch city of Delft. After graduating in 1969, he was appointed as an assistant professor at the Technical University of Delft.

In 1988, he joined TNO, as the head of the analytical chemistry department. He introduced quality systems into his laboratory, making it the first in The Netherlands to be accredited for both research and testing.

In 1995 Dr de Leer joined the Nederlands Meetinstituut as head of the chemistry department. His strong interest in quality aspects of chemical analysis fully developed, with special interests in isotope dilution protocols for primary analysis of trace metals using ICP-HR-MS, the production of gaseous reference materials, the development of traceability protocols, and measurement uncertainty.

Recently, Dr de Leer focuses on metrology in chemistry, developing high-precision, SI traceable methods for the analysis of gases.

To date, Dr de Leer has published over 90 papers and two books on water chemistry and naturally produced organohalogens.

Dr de Leer became an active member of EURACHEM Netherlands in 1990. In 1996 he became one

of The Netherlands' two representatives on the EURACHEM Committee. He was elected EURACHEM Vice Chair in 1998.

After two successful years on duty for the benefit of the European analytical community, Dr de Leer took over EURACHEM chairmanship from Veikko Komppa at the Annual Meeting 2000 in Berlin.

## **New Vice Chair**



Maria Filomena Gomes Ferreira Crujo Camoes, of Portuguese nationality, was born on the 21 of August 1945.

She received the BSc in Physics and Chemistry at the Faculty of Sciences, University of Lisbon, Portugal, in 1966, and made her PhD in Physical Chemistry at the University of Newcastle-upon-Tyne, UK, in 1973. In 1993, Filomena Camoes habilitated in Analytical Chemistry at the University of Lisbon, Portugal.

As an Associate Professor with Habilitation, she is still with the Faculty of Sciences of the University of Lisbon. She was elected President of the Analytical Chemistry Division of the Portuguese Chemical Society and National Delegate to the Division of Analytical Chemistry of the Federation of European Chemical Societies.

Filomena Camoes is Titular Member of the IUPAC V.5 Electroanalytical Chemistry Commission, Portuguese national delegate to EURACHEM and, since May 2000, EURACHEM Vice Chair.

Recently, Filomena Camoes works in Electroanalytical Chemistry (with a focus on potentiometry,

potentiometric sensors, and reference methods), Environmental Chemistry, Metrology in Chemistry, and Education in Chemistry. Part of the scientific interests of Filomena Camoes are ionic activities in standard buffer solutions, aiming at the assignment of reference pH values. Research projects are also developed in Environmental Chemistry, aquatic and atmospheric systems.

The list of publications comprises 100 works on the above scientific topics which have been presented in more than 200 oral and poster presentations, invited and plenary lectures.

## Revision of EURACHEM Memorandum of Understanding



*Maire Walsh presented the new MoU at the EURACHEM General Assembly Meeting 2000 in Berlin*

EURACHEM's Memorandum of Understanding contains the rules and the framework under which EURACHEM operates and it was adopted by the members in Frankfurt on 26 June 1990. It is subdivided into 5 sections

- \* Constitution
- \* Objectives and Tasks
- \* Members Rights and Responsibilities
- \* Liaison with other organisations
- \* Validity of Memorandum of Understanding

Since EURACHEM was inaugurated, Europe has undergone major political changes and EURACHEM has responded to those changes.

The Memorandum of Understanding defined membership as being open to countries within the EC and EFTA and to the European Commission. In 1994 an addendum was added to the Memorandum of Understanding which created a category of Associate Membership, this allowed European countries who were not members of the EC or EFTA to become members of EURACHEM.

At the annual meeting in 1999 it was decided to revise the Memorandum of Understanding to reflect the impending enlargement of the European Union and to redefine the categories of full and associate membership.

It was also decided to review the other sections of the Memorandum of Understanding and to adapt them to technical progress.

### **Revision Process**

Following the Helsinki meeting an amended Memorandum of Understanding was prepared and circulated to the Executive Committee for examination at their Autumn meeting (September 1999). Comments made at the meeting were incorporated into a revised document which was circulated (end of September) to the Executive for further comments. A second revision was prepared and circulated to the full committee for comments. A third and final revision was circulated to the full committee three months in advance of the Berlin meeting (May 2000), where it was unanimously adopted by the full committee.

### **The Major Changes**

#### **\* Section 1 Constitution**

This section was restructured and rewritten and now incorporates the 1994 addendum. Membership is now defined as:

Full membership of EURACHEM is open to countries within the European Union, and within the European Free Trade Association, the European Commission and countries recognised by the EU and EFTA as accession states.

EURACHEM Associate Membership is open to other European countries with a good analytical chemical infrastructure, or countries near to Europe who have strong economic relations with Europe and who have a good analytical chemical infrastructure.

Observer Membership is defined as:

Other European and International organisations which impact on quality and quality related aspects of chemical measurement in Europe, may, by invitation, also be represented in an observer capacity.

#### **\* Sections 2 and 4 have been amalgamated to form a new**

Section 2 "Strategies, Aims and Objectives". The major change in this area is the removal of the work programme from the Memorandum of Understanding and the linkage to the Memorandum of Understanding of the strategy statement.

### **Other Changes**

The role of the National EURACHEM Network is enhanced. Provision is made for voting and the

"EURACHEM Committee" is now referred to as the General Assembly.

Greater use is made of the provision in the original Memorandum of Understanding which permitted the EURACHEM Committee "to form its own rules of procedures".

### Summary

The amended Memorandum of Understanding makes it possible for EURACHEM Countries recognised by the EU and EFTA as accession states to apply for full membership. Associate Membership has been redefined. Greater use is made of Section 1.7 (old 1.4) which gives the General Assembly power "to form its own rules of procedure". Day-to-day and operational activities have been removed from the Memorandum of Understanding and the latter has been cross referenced to the strategy statement.

*Maire Walsh*

*EURACHEM Executive Committee*



*Changing the name plate - from Vice Chair to EURACHEM Chair: During the General Assembly Meeting 2000 in Berlin, Ed de Leer (NMI Delft) took over the chairmanship from Veikko Komppa (VTT Espoo).*

## EURACHEM Annual Meeting 2000 in Berlin

On invitation from EURACHEM Germany, EURACHEM's Annual Meeting 2000 was held on 23-26 May in Berlin at the Federal Institute for Materials Research and Testing (BAM). The programme included meetings of the Executive Committee, the Full Committee (now General Assembly), the working groups on Measurement Uncertainty, on AQA at Universities and on Education and Training. In conjunction with these meetings, a EURACHEM/EUROLAB Symposium on "Reference Materials for Technologies in the New Millennium" was arranged on 22-23 May at the same venue (**see report**

on pp. 8-9).

The meeting was attended by about 50 registered participants from 24 countries, predominantly from Europe, but with a noticeable transcontinental flavour from Australia, Japan and the United States. Invitees included Klaus Brinkmann, Chairman EA/C2, Horst Czichos, President EUROLAB, Eva Deak, Rapporteur EUROMET/AoS, Eddie Maier, European Commission, and Alan Squirrel, representing ILAC and NATA.

### **New Chair and Vice Chair**

The EURACHEM Chair, held by Veikko Komppa from VTT Chemical Technology, Finland, was handed over to Ed de Leer from The Netherlands Measurement Institute, who so far had been Vice Chair. In parallel, Filomena Camoes from the University of Lisbon, Portugal became EURACHEM's new Vice Chair.

### **Constitutional Issues**

At the annual meeting in 1999 the EURACHEM Committee had resolved to undertake major changes of EURACHEM's constitution, as laid down in the EURACHEM Memorandum of Understanding, to reflect the impending enlargement of the European Union and to redefine the categories of full and associate membership. This revision was carried out by the Executive Committee in autumn last year and was now approved by the Full Committee. Remarkably, this event happened to almost coincide with the 10th anniversary of the EURACHEM MoU which was signed on 26 June 1990 in Frankfurt.

The main item of the revision is a change of membership conditions, extending full membership to recognized EU and EFTA accession states. Also, associate membership is opened to countries near to Europe having strong economic relations with Europe and a good analytical-chemical infrastructure. Minor amendments include changing the name of the Full Committee to "General Assembly". (A comprehensive report is given in the article by Maire Walsh.)

As a consequence of the MoU amendment, full membership of EURACHEM was granted to Cyprus, Czech Republik, Hungary, Lithuania, Malta, Poland, Slovak Republik, Slovenia and Turkey, who so far had been associate members. In a cheerful ceremony, representatives of these countries signed the Memorandum of Understanding for full membership and received a special EURACHEM button as a gift from the new chairman.

### **New Member Countries**

In the last year, expressions of interest in membership of EURACHEM had been received from Albania, Romania and Ukraine. With information and support from the secretariat, these enquiries developed into formal applications which were processed via the Chairman and the Executive Committee to the General Assembly. At the meeting, the applications were approved, and according to the amended MoU associate membership was awarded to Albania and Ukraine, while Romania was awarded full membership. Representatives will be invited to attend the annual meeting in 2001 and sign the MoU.

### **Midterm Strategy**

An update of EURACHEM's midterm strategy paper "EURACHEM 2000" had been started at the annual meeting in 1998 and was completed by the Executive Committee after its meeting in autumn

1999. The final draft entitled "EURACHEM 2005" had been circulated to the delegates of the General Assembly and was now endorsed with minor amendments. The document sets out the mission, key objectives and work programme for EURACHEM during the years 2000 - 2005. An action plan for the implementation of the strategy was presented by Ed de Leer and discussed in the plenary.

In an invited contribution, Eddie Maier from the European Commission pointed out connections with current priority areas for EU funding of R&D in chemical analysis. In this context, he proposed to include an additional work item in the strategy document: interaction with standardisation bodies to promote the development of performance-based standards for analytical methods.



*The president of the Federal Institute for Materials Research and Testing (BAM), Horst Czychos, welcomed the delegates to the EURACHEM General Assembly 2000 in Berlin*

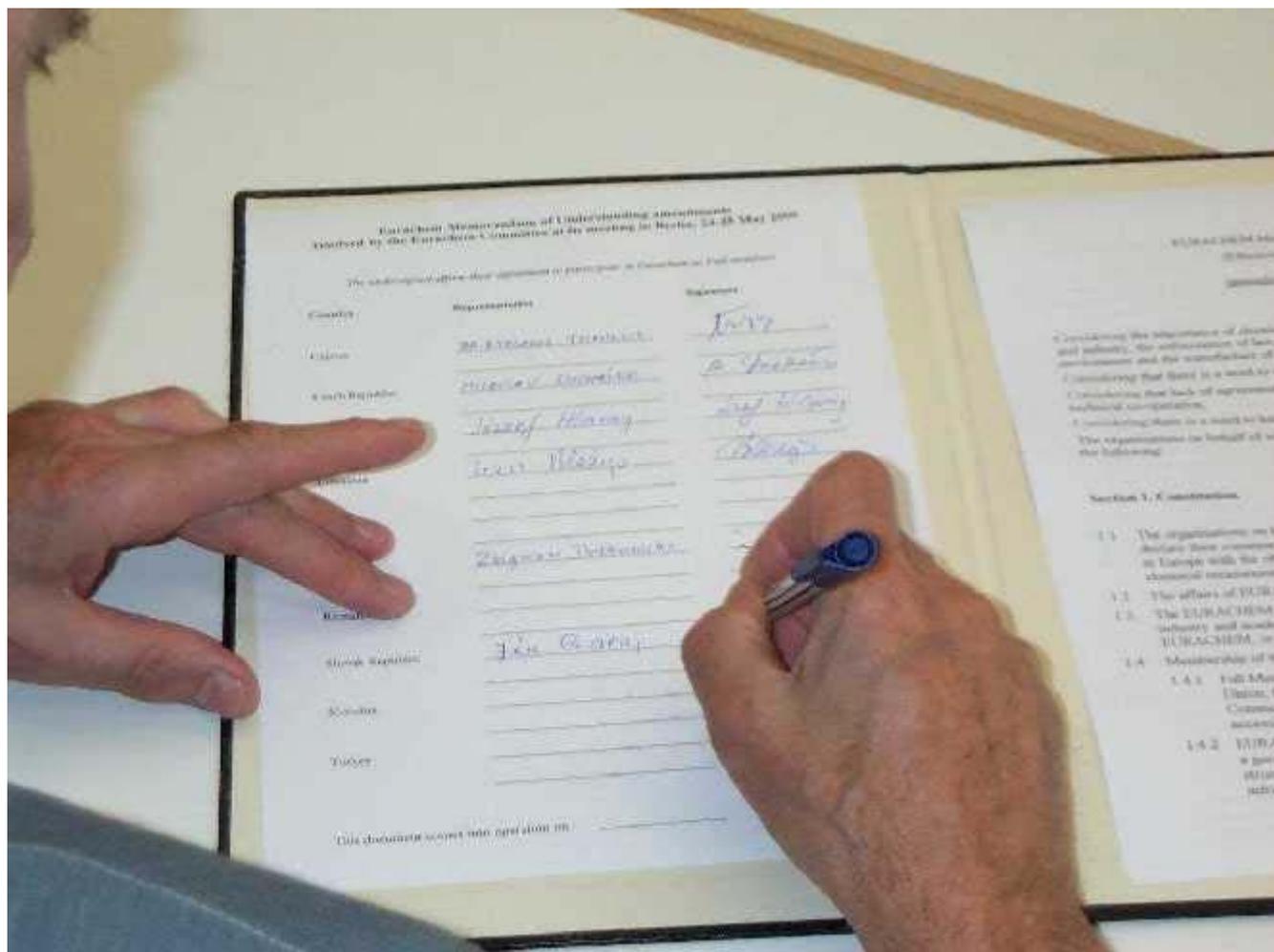
## **New Guides**

Two new guidance documents, the 2nd Edition of the EURACHEM Guide "Quantifying Uncertainty in Analytical Measurement" and a completely new EURACHEM Guide entitled „Selection, Use and Interpretation of Proficiency Testing (PT) Schemes by Laboratories 2000" have been prepared by EURACHEM working groups. The General Assembly approved both documents (see also page 3). Additional guidance documents in the pipeline include a EURACHEM Position Paper on Uncertainties in qualitative testing and analysis, a draft of which was discussed at the General Assembly and will be published as a correspondence paper in the journal Accreditation and Quality Assurance (ACQUAL), and a EURACHEM Guide on Traceability. A draft of the latter was discussed at the General Assembly,

and it was agreed to continue the work jointly with CITAC.

## Forum on International Developments

As the dedicated item of this meeting, recent international developments impacting on analytical laboratories were reviewed in a series of presentations and discussed in the plenary. Veikko Komppa opened the forum with a status report on the EU-US Mutual Recognition Agreement in the fields of calibration and testing, drawing from his experience as a member of an advisory group for EC/DG Trade. Recent developments at ILAC were jointly presented by Maire Walsh and Alan Squirrel. Maire, representing EURACHEM in the Laboratory Liaison Committee, reviewed recent ILAC policy papers and guidance documents (e.g. the draft Policy on Traceability and the Guidelines for Forensic Laboratories) while Alan focussed on the ILAC MRA where he had been involved in design and drafting. On behalf of the CCQM chairman Robert Kaarls, who unfortunately could not attend the meeting, Ed de Leer presented the main issues of the CIPM MRA, with a focus on the supporting data bases (e.g. the Key Comparison Data Base) that will be provided on the BIPM website. The final presentation, once more by Ed de Leer, gave an overview of the main changes implied by the new International Standard ISO/IEC 17025. As expected, accreditation to ISO/IEC 17025 played a major role in the subsequent plenary discussion. Among others, the new standard puts greater emphasis on quantification of uncertainty of test results. In the field of chemical analysis, the EURACHEM Uncertainty Guide will play a predominant role, with publication of the revised edition just in time.



*Signing the MoU*

## Metrology in Chemistry

At a chairpersons meeting of EURACHEM and EUROMET earlier this year, it had been agreed to establish a joint working group on metrology in chemistry, with equal participation, replacing the EUROMET Amount-of-Substance committee. Resulting from this meeting, terms of reference for the new group had been drafted and were now submitted to the general assemblies of both organisations. The EURACHEM General Assembly welcomed the proposal and approved the draft ToR with minor amendments. The same happened at the EUROMET Committee meeting on 14-16 June in Istanbul. The new group will be a major committee called MetChem, comprising a plenary and four expert groups on gas analysis, organic analysis, inorganic analysis and electrochemistry, thus mirroring the CCQM. Currently nomination of experts from both organisations is under way. The Newsletter will keep track of this important development.

### **Closure**

The meeting was closed by thanking EURACHEM Germany and BAM for the hospitality and efficient meeting arrangements. The next Annual Meeting will be hosted by EURACHEM Poland on 25-28 April 2001 in Warsaw.

*Werner Hässelbarth*  
*EURACHEM Secretariat*

## **EUROLAB-EURACHEM-BAM Symposium "Reference Materials for Technologies in the New Millennium"**

**Berlin, 22 - 23 May 2000**

About twenty years after the first symposium "Production and Use of Reference Materials" at the Federal Institute for Materials Research and Testing (BAM) in November 1979, an international symposium "Reference Materials for Technologies in the New Millennium" took place again in Berlin on 22 - 23 May 2000. This year's symposium which was arranged by EUROLAB Germany together with BAM was again intended to provide an opportunity for the international exchange of information on, and experience with reference materials (RM) between RM producers and users. The nearly 150 symposium participants came from 27 European, American and Asian countries, among them experts from Mongolia, China, Brazil, Mexico, and the United States.

### **Challenging Programme**

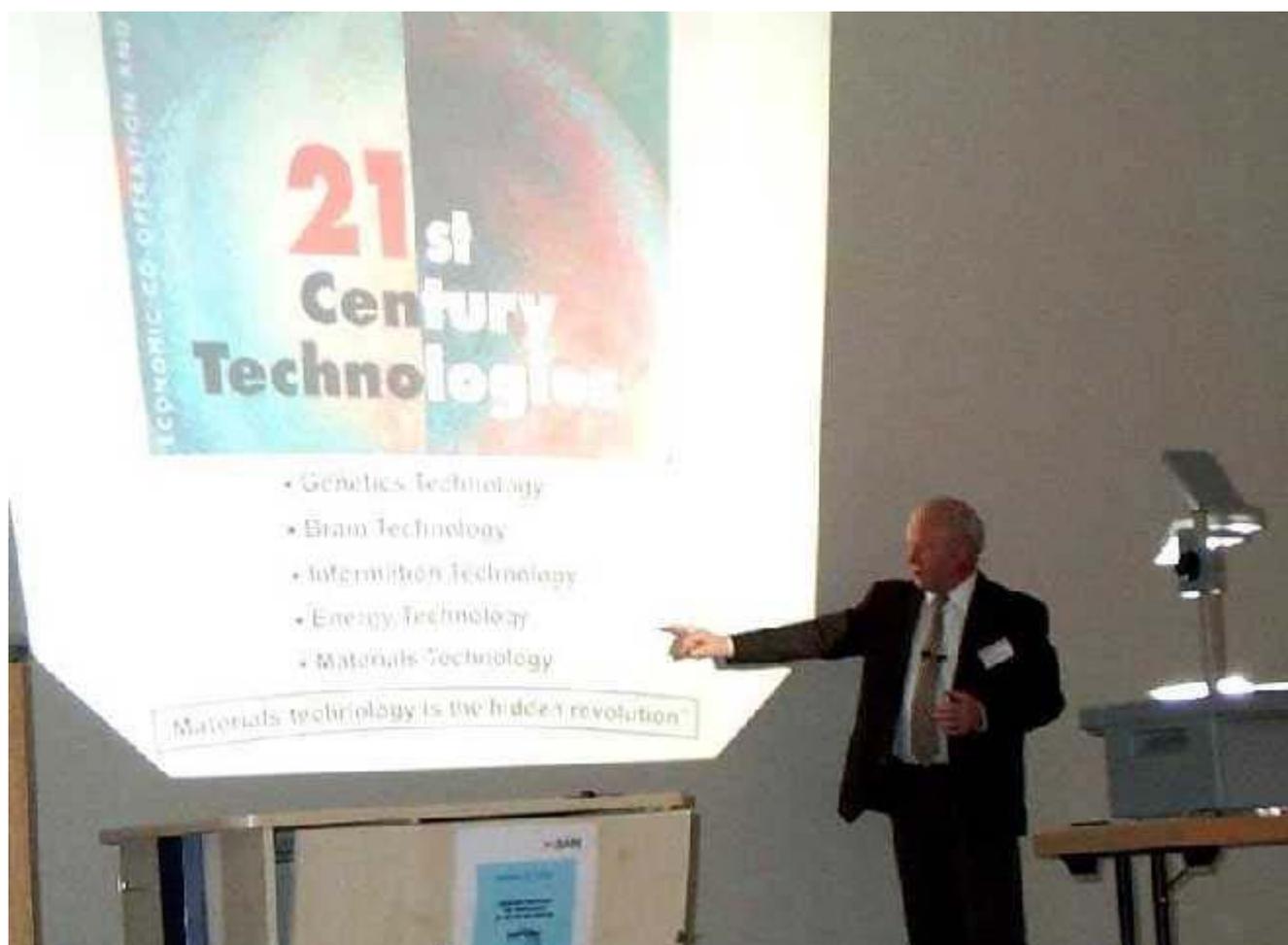
The aim of the symposium was to bring the interested parties together and to foster development of a concerted approach to the development, distribution, and use of reference materials. Due to the broad response to the call for papers, the Organizing Committee received not only papers on RM for materials analysis but also contributions related to a variety of other kinds of RM and to more general questions concerning the development, certification, and application of RM. Therefore, the contributions (28 lectures and 32 posters) covered the topics:

\* General Aspects

- \* Pure Materials and Elemental Solutions
- \* Inorganic Matrix RM
- \* RM for Physico-Chemical Properties
- \* RM for Physical Properties
- \* Environmental RM
- \* Organic, Biological, and Clinical RM.

The symposium programme comprised six sessions arranged according to the above mentioned topics and one poster session. After the Welcoming address by the representative of the German Federal Ministry of Economics and Technology, Staatssekretär A. Tacke, the opening lecture was given by Horst Czichos, President of EUROLAB and President of BAM. He presented the current activities of BAM in the field of RM.

The first session (Chair: A. Zschunke, BAM) was opened by Reenie Parris from the NIST Analytical Chemistry Division with a survey on NIST SRM, NTRM and SRD as tools for facilitating SI-traceable chemical measurements in the New Millennium. The other lectures in the first session concerned the establishment of traceability in chemical measurements and RM (P. de Bièvre, IRMM, Belgium) as well strategies for developing reference materials (Y. Mitani, Centro Nacional de Metrología, Mexico).



*The opening lecture on RM for 21st century technologies was given by BAM and EUROLAB president Horst Czichos.*



*Lively discussions in the plenary sessions.*



*During the well-attended poster session.*

### **Uncertainty and Traceability Issues**

In the second session (Chair: M. Grasserbauer, IRMM) lectures on RM as transfer standard in the traceability chain (H. Felber, EMPA, Switzerland), on questions of the uncertainty of RM according to the requirements of the "Guide to the expression of uncertainty in measurement" (J. Pauwels, IRMM) and on different ways to declare the quality of RM (M. Golze, BAM) were given.

The third session (Chair: R. Worswick, LGC, U.K.) was dominated by contributions on RM for elemental analysis, such as on the BAM system of primary calibration substances for establishing traceability in the field of element analysis (R. Matschat, BAM), on the certification of pure materials and elemental solutions (R. Lawn, LGC) and on purified metals as a tool to achieve traceability to the S.I. (G. Fortunato, EMPA). Finally, P. D. P. Taylor (IRMM) presented a contribution on isotopic spike calibration solutions for isotope dilution.

There was an opportunity for a short discussion after all of the lectures in each session which was well used by the participants. The first day of the scientific programme was finished with the poster session. It was well attended and also a good place for interesting discussions.

### **New Concepts, New Materials**

The lectures on the second day of the symposium concerned a variety of new reference materials for very different purposes such as industrial, environmental, medical, and biological RM (session IV, Chair: M. Walsh, State Laboratory, Ireland) as well RM for physical, mechanical, and physico-chemical properties (session V, Chair: N. Trahey, NIST together with H. Klich, BAM, and session VI, Chair: E. de Leer, NMi).

H. Muntau from JRC in Ispra (Italy) introduced new concepts for laboratory reference materials (LRM) and their role in environmental analysis. Low cost RM for routine use in food testing labs were presented by P. Roper (LGC). Further lectures of the fourth session reported about the Russian system of state RM for water quality control (A. N. Atanov, WRCC, St. Petersburg), about biological RM for air monitoring (K. Hoppstock, FZ Jülich, Germany), about EC RM for in-vitro diagnostics needs generated by the IVD-MD directive (H. Schimmel, IRMM), and about nuclear environmental RM (A. Held, IRMM, presented by P. D. P. Taylor).

The certification of porous RM was the topic of K. Meyer (BAM) in session V, whereas the lectures of J. Kelly (NIST) and W. Hinrichs (MPA Clausthal, Germany) dealt with various problems of RM for particle size distribution. C. du Fresne von Hohenesche (University of Mainz, Germany) reported about a HPLC column as a RM, C. Ingelbrecht compared EC RM for impact toughness with other RM available in the world.

At the end of this extensive session some problems of the certification of ion-implanted shallow layers in Si-wafers were pointed out by R. Klockenkämper (ISAS, Germany).

Finally, in the last session of the symposium RM for pH and electrolytic conductivity (P. Spitzer, PTB, Germany), EURONORM certified RM for environmentally sensitive elements in steels (R. P. Meeres, BAS, U.K.), as well as gaseous primary RM and its IDMS analysis (E.W.B. de Leer, NMi) were presented.

### **Successful Event**

A summary and closing remarks from the point of view of a participant to the symposium were given by J. Pauwels (IRMM). He reflected on the situation in the field of RM in 1979 when the first RM symposium took place at BAM and on the remarkable progress since that time which was demonstrated at this year's symposium.

J. Pauwels elaborated: "Twenty years ago when we were talking about reference materials, we were especially talking about materials which were useful to develop the industrial process: steel industry, non-ferrous metals industry, nuclear industry.

Today we are coming closer and closer to reference materials which concern everybody of the public, which concern our life, which concern our health. Meanwhile, we have learned making reference materials for complex matrices, and we have also discovered other important things: that there is something like instability and we have to monitor stability, that we have to look at homogeneity, that the increasing demands in analytical chemistry require us to give more information relevant for, and important in quality assurance and quality control.

We have explored traceability to whatever standards are available. We have learned that uncertainty is something more than a standard deviation. Very long time ago we were happy to quote repeatability or maybe reproduceability as uncertainty. Today we know that uncertainty means something else and with the increasing requirements to analytical chemistry all of us have realised that also we as producers of reference materials have to make efforts to give more complete information. There are lots of things

which came upon us, things like accreditation, now we should try to get accreditation systems recognised just as our measurements have to be recognised, and just as our reference materials have to be recognised."

With many thanks to the organizers, J. Pauwels closed this successful symposium which was accompanied - besides the scientific programme - by an exhibition of commercially available RM and an excellent symposium dinner on a sightseeing boat on the river Spree.

*Peter Klobes  
Federal Institute for  
Materials Research and Testing (BAM)*

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Parties interested in more details may order the book of abstracts directly from:  
EUROLAB Germany, Secretariat  
Unter den Eichen 87, D-12205 Berlin, Germany.

## **40 Years IRMM**

On the 16th of May 2000, 40 years were completed since the first official document marking the birth of the Institute for Reference Materials and Measurements - Joint Research Centre - was signed. To celebrate the occasion, Manfred Grasserbauer, its Director since 1 February 1997, promoted the Seminar "Measurement Sciences at the Service of European Policies", on 18 - 19 May, for which over 50 invited guests, either on their personal capacity, or representing european and non-european institutions, gathered in Geel (Belgium) together with 200 IRMM staff members.

H. Richardson, JRC Deputy Director General, addressed words of welcome to the Symposium participants and presided the Opening Session.

In his introductory address "Towards a European Research Area" the European Commissioner for Scientific Research, Philippe Busquin, reminded the audience that 50 years have passed since the Schuman's declaration and that, although Europe has at its disposal considerable human resources, a rich variety of schools and institutions of the highest degree of excellence and expertise, it is still too fragmented in a way which does not favour the interdisciplinarity needed for innovation and progress.

Recently, in March, the Lisbon Summit of European Ministers of Science and Heads of State has defined a new strategy for Europe based on knowledge. To pursuit the common objectives, actions are recommended aiming at the promotion of trans-european scientific cooperation, such as the creation of networks of national and common research programmes, the elimination of obstacles to the mobility of researchers and the development of a method to assess national research policies.

The Summit of European Ministers of Science, next June, will summarise and integrate the contents of the political and scientific debates in a document to be submitted to the European Commission next autumn, containing orientations for the future of European research. The European Parliament has shown support to these measures recommending also that, like the United States of America and Japan, European Member states will

dedicate a minimum of 3% of their national income to scientific research. The European Union must develop a new relation between science and legislation, to answer increasing public awareness with regard to food, health, environmental issues, etc.

The European institutions need mutually recognised methods, validated tests, comparable results. It is in this context that the IRMM-JRC fulfils its mission of promoting a common European measurement system in support of EU policies, especially internal market, environment, health and consumer protection standards and in cooperation with other relevant institutions, constitutes a scientific and technical reference.

Manfred Grasserbauer presented the main lines of the activity of the IRMM as a "Transnational Institute at the Service of European Policies" over the past, its achievements and difficulties, as well as the new issues (e.g. environmental analysis), that made the institute change. With a total of 240 people in constant renovation (40% left over the past 3 years) and sophisticated analytical instrumentation, the IRMM fosters scientific cooperation both within the EU and outside the EU in a network of collaborations with public and private institutions of recognised competence. Having achieved excellent scientific results, the IRMM has attained international recognition, its members being actively involved in international organisations (among them EURACHEM), in Scientific Boards, Committees and Editorial Boards of Scientific Journals.

The Symposium Programme evolved over the following day with oral presentations by invited guests and IRMM expert staff members. Fruitful discussion took place between speakers and the audience, who left full of dynamism and reassured to proceed with their scientific activities towards a better society.

The Dinner-Dance which followed sealed the atmosphere of friendship and joy among those who, as a team, were lucky to be there for the celebration. The 40 candles of the birthday cake were efficiently blown by three ladies "behind the man". Congratulations and best wishes for the future!

*Filomena Camoes*  
*EURACHEM Portugal*

## ***eptis* Launched on the Internet**

The European Information System on Proficiency Testing Schemes EPTIS has been launched. Since 1st March 2000, it is available on the Internet at <http://www.eptis.bam.de> (english version only).

EPTIS contains comprehensive information on regularly organised proficiency testing schemes (PTS) in the European Union. These PTS are operated in various fields of testing and analytical chemistry. Metrological and clinical PTS are not included.

### **The eptis Project**

EPTIS has been developed within the framework of the concerted action SMT4-CT98-8002 "Information System and Qualifying Criteria for Proficiency Testing Schemes", sponsored by the EU and supported by the European co-operation for Accreditation (EA), EUROLAB

and EURACHEM. The project was co-ordinated by the Federal Institute for Materials Research and Testing (BAM, Germany).

National contact persons of the following 16 European countries are on your disposal concerning the announcement of new PTS or any questions about EPTIS: Austria, Belgium, Denmark, Finland, France, Germany, Great Britain, Greece, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, and the Netherlands.

### **European PT Survey**

Proficiency testing schemes (PTS) are regularly organised interlaboratory comparisons to determine the technical competence of laboratories, which test the same or similar items. The information needed from the provider of PTS was collected by performing a European survey of PT providers. A uniform questionnaire developed on the basis of the ISO/IEC Guide 43-1 "Proficiency testing by interlaboratory comparisons - Development and operation of proficiency testing schemes" formed the basis for this survey.

EPTIS is addressed to everyone involved in conformity assessment procedures (accreditation bodies, assessors, laboratories, national authorities, etc.) and to PTS providers analysing the market needs. The user of EPTIS has the possibility to search for a PT scheme according to his needs on the basis of the general information on each PTS given in the data base.

### **Information structure**

Each selected PTS is supplemented by complementary information which characterises the quality of the PTS. This complementary information is created as a web page linked to the respective data set. All information is provided according to the following scheme:

General information (searchable):

- \* information about the PT-provider (name, address, telephone, fax, contact person, e-mail, and www-address of the provider)
- \* basis information about the PTS (designation of the PTS, testing field, product/set of products, test item, tested property, and testing method)

Complementary information (available as web pages):

- \* conditions for participation
- \* documentation/management of the PTS
- \* test item characterisation
- \* analysis of testing results and assessment of the laboratories
- \* exchange of information between the PTS provider and the participants

To announce new PT schemes, EPTIS offers the possibility to complete the questionnaire online and to e-mail it to the respective national contact point. All information contained in the system is based on self declaration by the PT providers.

The system is open to new PTS and further countries. Since the now-available information system is free of charge for users, the EPTIS consortium is currently looking for financial support of EPTIS work in the future.

For more information or input, please contact:

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## **EURACHEM 2005 Strategy**

At the EURACHEM Annual Meeting in May 2000, the General Assembly endorsed the new strategy document EURACHEM 2005, which sets out the mission, key objectives and work programme for EURACHEM during the period 2000-2005.

### **Mission**

Improve the quality of chemical measurement, and measurements where chemistry is coupled with other disciplines, e.g. physics and biology, in order to meet the needs and expectations of their customers.

### **Key Objectives**

- \* To promote best practice in chemical measurement and to develop strategies and work programmes which will cater for new and emerging analytical technologies and will meet the requirements of EURACHEM members and their customers in the 21st century.
- \* To develop European networks and national EURACHEM groups as a mechanism for the exchange of information and the promotion of collaboration aimed at identifying and defining best practice in chemical measurement.
- \* To contribute to the development of international chemical measurement systems which enable the results of chemical measurements to be traced to authoritative, internationally recognised references, and where feasible to SI.
- \* To provide a robust input to and collaborate with other European and international organisations concerned with improvement of the quality of chemical measurement.
- \* To help decision makers and users of measurements appreciate the importance of quality issues and to encourage them to ask for evidence of the validity of the measurements they procure.
- \* To influence and collaborate with the Commission of the European Union and the EU programmes.

### **Work Programme**

The topic "Networking" sets up goals and tasks like: The General Assembly to meet once per year; the Executive Committee to meet twice per year; all Working Groups to meet at least once per year and organise workshops as appropriate; to collaborate with other European and international organisations such as EA, EUROMET, EU-ROLAB, CITAC and ILAC (through the Laboratory Liaison Committee), to collaborate with, and input into the EU's Framework Programme (e.g. in FP 5 to the Generic Activity Measurement and Testing); to

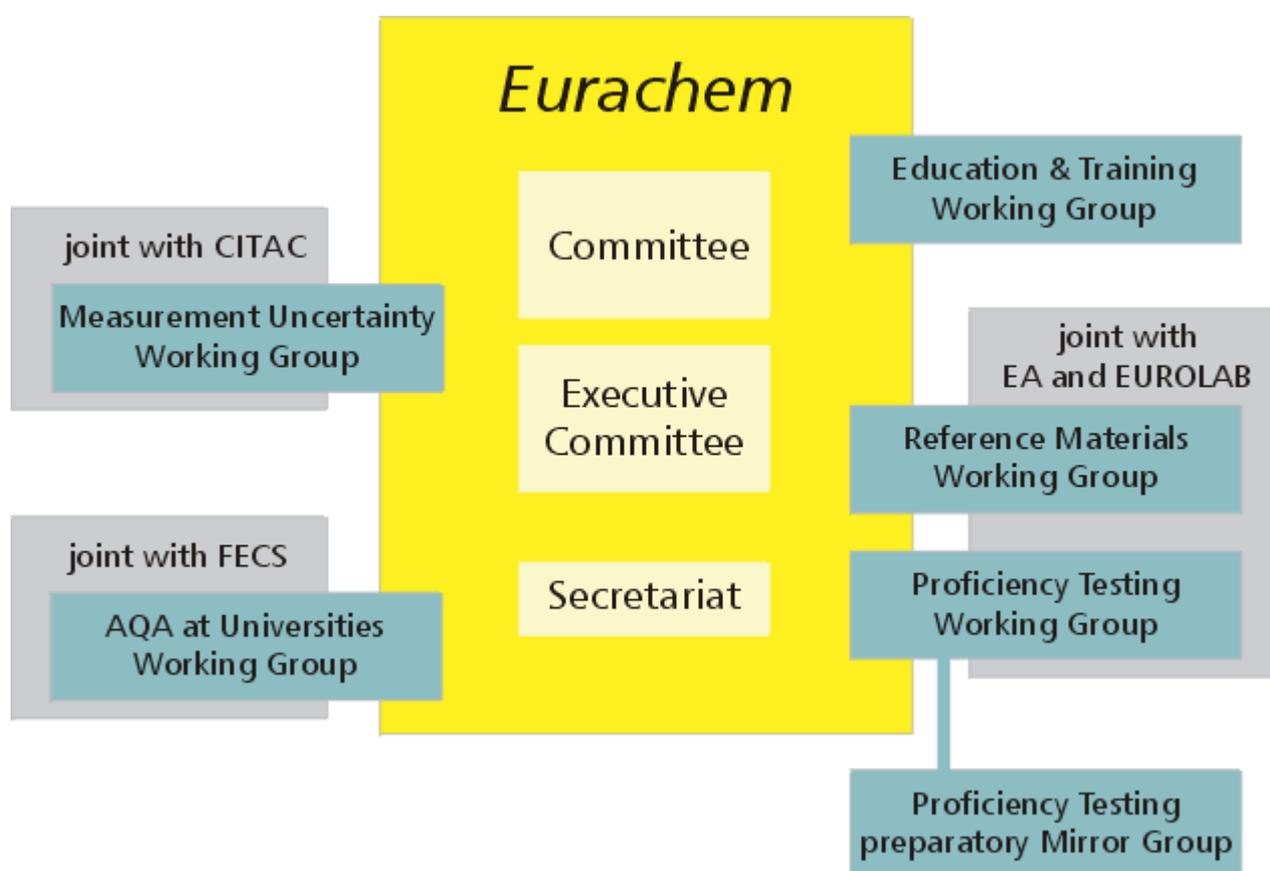
publish at least one newsletter per year, to maintain the Internet homepage of EURACHEM, and to start creating a virtual institute for exchange of analytical measurement expertise and experience.

Other topics of the work programme are traceability, education and training, measurement uncertainty, proficiency testing, reference materials, analytical QA, regulatory and specification limits, and multidisciplinary techniques. The latter, e.g., includes the establishment of a task group to investigate the development of quality systems for analytical techniques which incorporate molecular biology.

*The complete EURACHEM 2005 Strategy document is available upon request from the EURACHEM Secretariat. It will also be published on the EURACHEM web site.*

## EURACHEM: Organisation, Members and Addresses

### Organisation Structure



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**Member countries:** Austria, Belgium, Cyprus, Czech Republic, Denmark, European Commission, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, Luxemburg, Malta, The Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, and United Kingdom.

**Associate member countries:** Albania, Russian Federation, and Ukraine.

**EURACHEM has interfaces with** AOAC International, CCQM, CITAC, EA, EUROLAB, EUROM II, EUROMET, FECS, ILAC, ISO/REMCO, and IUPAC.

**A complete list of all contact points** for both EURACHEM activities and partner/liaison organisations can be found on the EURACHEM web site at <http://www.eurachem.bam.de/>