



Annual Report 2002

Highlights of the Year

- 50th Anniversary of IFCC
- 18th International Congress of Clinical Chemistry and Laboratory Medicine, Kyoto, Japan
- IFCC Awards Presented at 18th ICCCLM in Kyoto, Japan
- 9th Asian-Pacific Congress of Clinical Biochemistry, New Delhi, India
- Formation of the Joint Committee of Traceability in Laboratory Medicine (JCTLM) in collaboration with BIPM, WHO, ILAC and other international and regional organizations.
- Intellectual Property Policy Document
- Series of IFCC Monographies; the IFCC History Book
- Further development of Website (Database of IFCC publications, electronic bookstore)
- Master Course in Clinical Laboratory Sciences, University of La Plata, Argentina
- Course in Flowcytometry
- IFCC Reference Measurement Procedures for Enzyme Activity Measurements at 37°C and for HbA1c

- IFCC/IRMM Certified Reference Materials for Enzymes
- IFCC/WHO Certified Reference Preparation for 6 HCG standards

President's Message

During the first 50 years of IFCC it had become a tradition that at the Council Meeting scheduled the day before the opening of the International Congress, the Executive Board reports to the membership on progress, achievements and reflects on the 3-years period in office. This time was very special, since we also celebrated, in Kyoto, the 50th Anniversary of the foundation of the IFCC on July 26, 1952. It is worth comparing the objectives and expectations of the founders with the achievements. The Federation has developed into an internationally recognised professional organisation with close links to international and regional partners, both from other professionals and from industry. IFCC has developed to an interdisciplinary, multicultural Federation with the aim to improve laboratory diagnostics globally. With changes in the economy, health care systems, globalisation of industry, concepts have been continuously developed to support colleagues in our profession to run clinical laboratories more efficiently, with increasing competence for the benefit and interest of patients and society.

The term of this Executive Board, a group of dedicated colleagues and friends, finished at the end of the year 2002, and it is important to reflect on our activities of the past years. These 3 years were very productive for the Federation with significant progress and accomplishments being made in many ongoing projects, initiatives and organizational matters. However, one would miss a fundamental aspect not mentioning the terrorist attacks of September 11, 2001. They changed the entire world and are affecting global policy; the overall outcome is still not known. These events, the reports, pictures of victims, refugees and involvement of innocent children and adults have disturbed us all. It is also our responsibility to make this a world a better place where friendship overcomes hate.

It was one of this Executive Board's objectives during the last 3 years to meet during congresses and to establish personal contacts with individuals from Member Societies and Corporate Members. These are occasions where the needs and mutual expectations can be discussed and friendships established which are important for communicating

the Federation's activities, possibilities and to learn about the expectations. Official meetings of the Board. Were held in the Arabic, Asian Pacific, Europe, North and Latin America regions.

This Annual Report is also a summary from the Executive Board, which had been elected for the period 2000 – 2002, and summarizes some new directions within the Federation and highlights the achievements of the Divisions and their respective working parties. In order to assist the member societies and corporate members IFCC's Scientific Division (Chair: J. C. Forest) has funded and pursued standardization efforts related to reference measurement procedures (HbA1c, enzyme activities at 37°C) and certified reference materials in collaboration with WHO (PSA, HCG) and IRMM (cortisol, enzymes). After discussions between NCCLS and IFCCS for several years, a Memorandum of Understanding between both organizations was finally signed in 2001. On basis of this memorandum 10 joint NCCLS-IFCC projects on biochemical bone markers, free thyroid hormones, analysis of body fluid analysis for cellular composition, performance of cellular immune functional assays, molecular methods for microarrays, sample collection and handling for molecular test methods, quality assessment programs for molecular methods, determining clinical utility of genetic tests were initiated. It is envisaged that the final documents will be ready in the next 2 years. A major step forward in promoting worldwide the concept of traceability, comparability and equivalence of measurement results was the creation of the Joint Committee of Traceability in Laboratory Medicine (JCTLM). The interdisciplinary JCTLM was founded in June 2002 in Paris following long discussions and negotiations with the Bureau International de Metre (BIPM), metrology institutes and IVD industry organizations. BIPM; IFCC, ILAC and WHO are key stakeholders in this important endeavor bringing together metrologists, industry and laboratory professionals. We envisage that by means of this global initiative, a better comparability of measurements by traceable calibrations will be reached.

Major achievements were made by the members of the Communication and Publications Division (Chair: B. Gouget). By the creation of a new and modern web site our communication tools were revised and enhanced; this was only made possible by the expertise and engagement of the IFCC Web Coordinator Craig Webster. The new site highlights ongoing activities in the IFCC News, the IFCC Journal and various special reports, and also makes all IFCC published documents available in a

database. Just recently the electronic bookstore providing newly published IFCC monographs and conference proceedings was opened. The Congress and Conference Division (Chair: G. Beasall) expertly managed conferences and congresses informative from the scientific and educational point of view. The Education and Management Division (Chair: G. Sanders) succeeded in continuous education in the field by organizing courses for flow-cytometry and running a master course in close collaboration with the University of La Plata. Also the Visiting Lecture Programme had been expanded to the Asian Pacific Region.

All the initiatives lead to an expanding workload for the volunteer officers and the demand for a professional support based on modern logistics and supporting the needs of the Federation. The IFCC Office is staffed with qualified and experienced personnel using modern office equipment and carries out the administrative and communication activities of the organization under the management of the EB.

The Federation is a voluntary organization depending not only on financial contributions from the membership and from congresses but also on individuals ready to serve this organization and their employers providing them with infrastructure. The development of IFCC to a flourishing, well accepted organization would have been impossible without the enthusiasm and accountability of these colleagues. In the book "IFCC Celebrating 50 Years" written by J. Lines and J. Heeren one will meet all those who have worked so hard and dedicated their own time to the Federation. On behalf of all the IFCC members, I acknowledge and commend these colleagues for their hard work on our behalf in meeting the needs and expectations of the IFCC membership, and in expanding the vision and role of the International Federation of Clinical Chemistry and Laboratory Medicine.

Mathias M. Müller
President

Executive Board (EB)

The EB met three times in 2002, in Vienna, Orlando and Kyoto. The meeting in Vienna was held in conjunction with a Special Symposium celebrating the 10th anniversary of IFCC President, Prof Müller, as Head of the Institute of Laboratory Diagnostics at the Kaiser Franz Josef Hospital. The final meeting in Kyoto was held immediately prior to the

At the meeting in Vienna, one of the major items for discussion was the increasingly important relationship between the IFCC and Bureau International des Poids et Mesures (BIPM) especially the Joint Committee for Traceability in Laboratory Medicine. This was further discussed at the following EB meetings and the IFCC supported the establishment of two working groups;

1. **WG for Reference Materials and Methods**

The first task is to come up with an inventory of Reference materials and methods.

2. **WG for Reference Laboratories** This group was to establish a system for the managing of reference laboratories, their link to the respective national metrology institutes and their accreditation will be the primary goal. Three proposals for networks of reference laboratories were agreed so far: enzymes (IFCC), HbA_{1c} (IFCC) and cholesterol (CDC).

At this meeting, a report from the IFCC Office indicated that they were in a position to take further responsibilities. It was agreed that the Office would become increasingly responsible for the day-to-day communication between IFCC Members, take an increasing role in maintaining the Website and handle registrations for the specialised IFCC Conferences. Another ongoing task for the Office is to work with the CPD in preparing the booths for International and Regional meetings. The success of this was displayed at the ICC in Kyoto where the IFCC had a very prominent and successful booth, organised and manned by the IFCC Office staff.

The other significant item discussed was how the IFCC should handle Intellectual Property. Lawyers suggested that there should be a voluntary agreement between the IFCC and its officers and the experts involved in IFCC projects rather a contract. It was agreed that this would be IFCC policy.

The meeting in Orlando was held during the AACC Annual meeting. This gave the IFCC the opportunity to meet with the officers of AACC and discuss topic of mutual interest and build on the increasing cooperation between the two groups. One of the major topics of the joint meeting was the 19th International Congress of Clinical Chemistry and Laboratory Medicine, which will be hosted in 2005 by the AACC. Lines of communication were established which will be extremely beneficial in the lead up to the meeting. Major topics discussed during the EB meeting were

1. Membership and rules for payment of fees
2. Ongoing and new projects with NCCLS
3. Relationships with other organizations such as NCCLS, NIST, IRMM and JCTLM
4. Future directions and strategic issues of the IFCC to include aspects of Laboratory Medicine.

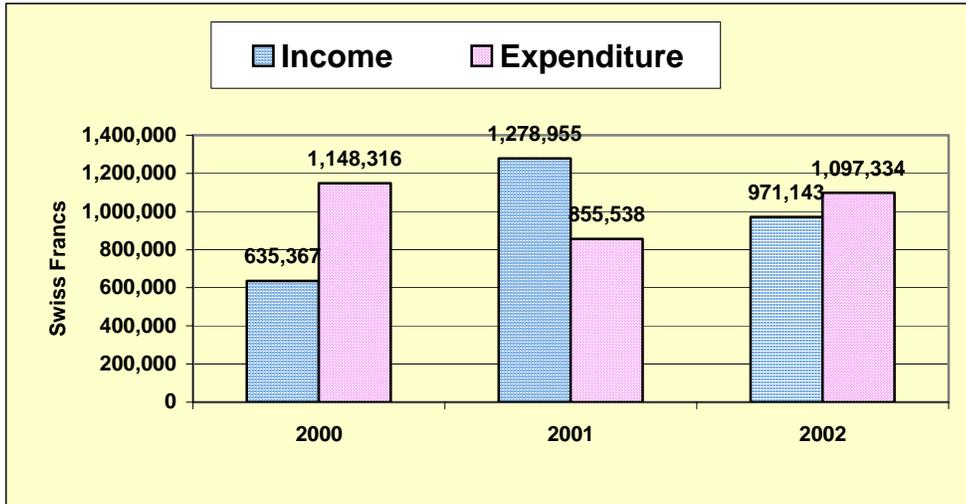
A morning session was devoted to this final topic and it was concluded that in the next 12 months leading up to the General Conference in 2004, the EB should review all IFCC activities, rules and statutes in relation to the Strategic Plan. The findings and recommendations would be circulated to the members leading up to the General Conference so that a workshop on the future of the Federation could be held during this Conference.

The final EB meeting for 2002 was held prior to the 18th ICC in Kyoto. Traditionally, the final meeting of the year is a review and budget-planning meeting and for part of the meeting, the EB was joined by the Chairs of Divisions who reviewed the previous year's activities and presented their draft budgets.

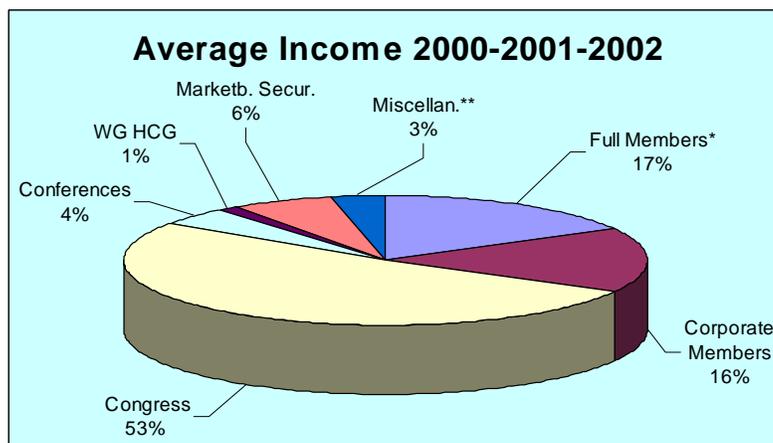
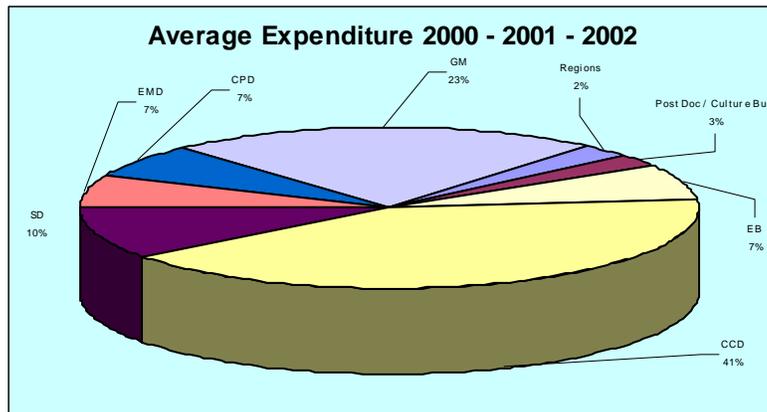
2002 was an important year for the EB as during the year, it became clear that the Federation needs to consider its future in light of the name change to include Laboratory Medicine. This was discussed on a number of occasions, which has led to the proposal to review all activities as outlined above.

A quick view of IFCC finances for 2000-2002

As shown in the first figure below, income and expenditure were broadly in balance over the three years (2000-2002). As usual the year which contained the International Congresses of Clinical Chemistry showed a positive outcome whereas in 2000, expenditure exceeded income. The overall results across the 2000-2002 triennium was a surplus of CHF 378.573.



The major sources of income are Members' subscriptions, ICCC profits, and contribution towards Scientific Division projects and conferences. The patterns of IFCC income and expenditure are shown in the two pie chart below. The major items of expenditure are within Congress Conference Division (CCD) and the Scientific Division (SD) and in maintaining the infrastructure of our organization. The three other Divisions account for just over a third of the expenses.



Public Relations

In an attempt to find out how Member societies value the activities guided by IFCC, the EB realized the importance of having a Public Relations initiative that linked us to our Member societies and Corporate members closer.

Therefore, encouraged by this idea, the Members of the EB, Ghassan Shannan, Rosa Sierra-Amor and Chris Lam in conjunction with the IFCC Office commenced a project on Public Relations. A positive response was obtained, which gave more accurate and precise information on the participation of IFCC members in our divisions, committees and working groups. The first questionnaire was sent out in September 2001. Although, not all Member societies and Corporate members replied to the questionnaires, valuable information was presented at the EB meeting in Milan last November. This task continued by sending another questionnaire in late December, which encouraged several more societies to reply that they were interested in getting more involved in IFCC activities.

This activity will continue and a report of the result for distribution to our membership was being prepared.

Professional Scientific Exchange Program

In 1998 this twinning program between two laboratories in different countries was founded so that young colleagues could participate in visits abroad. During 2002, a total of 5 scholarships were granted in 2002. The recipients came from Bulgaria, Netherlands, Spain, Uruguay, and Yugoslavia and visited for training or research host-laboratories in Austria, Sweden, UK, and USA. The training was for flowcytometry, massspectrometry and immunoassays; research topics were bone diseases and osteoporosis, cell differentiation, inborn errors and iron metabolism.

The EB considers this program important for our young scientists and their future. National Societies are encouraged to promote the program and to submit applications for the twinning of laboratories in different areas of the globe..

Awards Committee

The following 2002 IFCC awards were presented at the International Congress of Clinical Chemistry and Laboratory Medicine in Kyoto, Japan.

2002 IFCC/Bayer Distinguished Clinical Chemist Award

This award recognizes an individual who has made outstanding contributions to the science of Clinical Chemistry and Laboratory Medicine or the application of clinical chemistry to the understanding or solution of medical problems. The 2002 recipient of this award was **C Nicholas Hales, Ph.D.** Cambridge University, Cambridge UK whose contributions in the development of immunoassays and their application to medical problems have been extensive and profound.

2002 IFCC/Bayer Wishinsky Award For Distinguished International Service

This award honours an individual who has made unique contributions to the promotion and understanding of Clinical Chemistry and Laboratory Medicine throughout the world. The 2002 award was presented to **Oren Zinder**, Rambam Medical Center, Haifa, Israel, and a former top IFCC officer.. Professor Zinder has worked with great enthusiasm and effort for many years in advancing the profession of clinical chemistry and laboratory medicine, worldwide.

2002 IFCC/Beckman Coulter Award For Distinguished Contributions In Education

This award honours an individual who has made extraordinary contributions in establishing and developing educational material for our discipline to improve training and educational programs worldwide or in a region. The 2002 award was presented to **John Bernard Henry** who has shared his knowledge and enthusiasm with students, residents, and fellow colleagues and his lifelong passion of teaching and mentoring has been inspirational to several generations of health care professionals. He is the editor of the famous textbook "Clinical Diagnosis and Management by Laboratory Methods" that is now in its 20th edition.

2002 IFCC/Abbott Award For Significant Contributions To Molecular Diagnostics

This is a new award that honours an individual who has made unique contributions to the promotion and understanding of Molecular Biology and its application in Clinical Chemistry and Laboratory Medicine throughout the world. The 2002 inaugural recipient of this award was **Leena Peltonen**, University of Helsinki, Helsinki, Finland. Professor Peltonen is a pioneer in the collection of DNA samples from isolated populations to map and clone disease genes. Her group has mapped an amazing number of 16 monogenic disease genes and has published the linkage of predisposing loci in ten complex diseases, including multiple sclerosis, schizophrenia, and coronary heart disease.

2002 IFCC/Roche Award For Significant Advances In Critical Care Testing

This award encourages and recognizes young scientists who are carrying out research and development in the area of critical care testing. It's organization is based on a three-year cycle which initially involves competition at a national level followed by an international final. The applicants for the 2002 IFCC/Roche award came from 34 member countries of the IFCC. The National Societies of the IFCC were responsible for the selection of the National Winner in each country and the IFCC/Roche Award Committee then selected the following 10 finalists who presented their work in a special Symposium convened at the Kyoto International Congress of Clinical Chemistry and Laboratory Medicine: The topics of the 10 presentations were related to procalcitonin and CRP, S100 B, phospholipase A2, plasma DNA, troponin T, tumour necrosis factor α , macrophage migration inhibitory factor, apoptosis, scores for predicting outcome, and fungemia.

From these 10 finalists, **Sacha Zeerleder** from the Central Hematology Laboratory, University Hospital in Bern, Switzerland and the Central Laboratory of the Netherlands Red Cross Blood Transfusion Service was selected as the 2002 winner of the IFCC/Roche award and was presented with a certificate and a cheque for US\$ 30 000. The title of this contribution was: "Apoptosis in sepsis and multiple organ dysfunction syndrome."

IFCC is grateful to Roche Company for the sponsorship of this award. During the 18th CCCLM in Kyoto the management of Roche and IFCC agreed in continuation of this award-contest.

Communication and Publications Division (CPD)

The CPD Executive Committee

The year 2002 was the Federation's 50th anniversary year. The Communication and Publications Division was under the chairmanship of Dr Bernard Gouget (FR), who continued to steer the Division through its evolving role within the Federation. In addition, the CPD-EC comprised of vice chairman Andrew Wootton (AU), Editor of Documents Peter Lehmann (US), Editor-in-chief for eJIFCC (the electronic journal of IFCC) David Williams (UK), News Editor Ellis Jacobs (US), and Webmaster Craig Webster (UK). Some members were assisted by Working Groups on the eJIFCC- a true editorial group, the web site, and for IFCC news. A Working Group for Ibero-American nomenclature and translations was chaired by Xavier Fuentes Arderiu (SP). Assisting and guiding the Division were Corporate Member representative Heiko Zievogel (DE), and Executive Board liaison Christopher W K Lam (HK).

The CPD met as a whole group in Milan (IT), February 2002, and in Kyoto (JP), October 2002. The Web-coordinator organized three web courses in Milan and in Nottingham for the IFCC office and IFCC officers. Partial meetings were also held between the Chair and the IFCC-EB in Vienna in March 2002 and in Orlando in July 2002.

CPD Activities

The CPD was active at the IFCC meetings and at meetings in New Delhi (I), Vienna (AU) in Cordoba (SP) in Cuba (CU), and Vera Cruz (MX). At each IFCC congress, the CPD managed the IFCC booth and chaired scientific sessions on the use of the Internet and the role of laboratory medicine in the evolution of health information systems. In 2002, IFCC-CPD reinforced its involvement with electronic communications, insisting on a new IFCC image that confirms its worldwide leadership in clinical chemistry and laboratory medicine, reaffirming that the activities of IFCC on the Web truly reflect the constructive, dynamic evolution that the Web is bringing to clinical sciences, today and tomorrow.

Activities at the Asian Pacific Congress in Clinical Chemistry, New Delhi, March 9 to 14, 2002

The CPD chair coordinated a symposium on Telecommunication in Clinical Chemistry. Presentation topics were Telemedicine trends: impact on the clinical medical laboratory (B Gouget FR), Assets and obstacles to telebiology training in emerging countries (RI Sierra-Amor MX), Current developments in telemedicine in India (CGS Sarma IN).

Activities at the AMBC Morelia (MX) meeting March 2-6.

Continuing an annual “tradition”, the CPD chaired a symposium on “e-Sources and resources in education for clinical chemistry”, with the participation of R I Sierra Amor and A Pesce. The event was partially sponsored by Chronolab. There was a meeting with the EMD to establish common collaborations using new educational supporting materials such as CD-ROMs and e-learning techniques. The strategic goal is to create better educational materials, which are available in a more effective way, and on a wider scale.

Celebrating the 10th anniversary of the Institute of Laboratory diagnostics (Kaiser Joseph Hospital Vienna, March 16). This event was marked not only the 10 years since the Institute was set up, but also the 60th birthday of the IFCC President. The CPD chair made a presentation on “The virtue of being virtual”, dedicated to new technologies and what they bring to the conception of new tools in laboratory medicine and to new approaches in knowledge management.

Congress of the Spanish association of Pharmaceutical Analysts (AEFA) Cordoba (SP), April 18-20 2002.

The CPD was represented by B Gouget and X Fuentes Arderiu, who organized a round table with the Spanish title: Uso de la tecnologia de Internet para facilitar el procesode aprendizaje y la ensenanza.

1st International seminar "Selected Topics in Laboratory Medicine “ (La Havana, CUBA, August 5-6).

The CPD contributed to the scientific program with a conference on “Telecommunications and Telemedicine Applied to Laboratory Medicine”.

This meeting was a good opportunity to reinforce the collaboration with Cuban colleagues to establish common projects on the development of telemedicine.

International meeting of the Fédération Internationale de Pharmacie (FIP)–IFCC, (Nice September 5).

B Gouget chaired the Joint Session FIP/IFCC on “Up-to date-clinical biology topics”

18 ICC Kyoto, Japan, October 22-2002.

During this meeting the CPD was very active. At the Council meeting, there was a presentation entitled “Of ink and electrons at IFCC” (A Wootton), the triennial report was distributed, and CPD members participated in the IFCC Forum on “The global role of IFCC in Clinical Chemistry and Laboratory Medicine”. The CPD also managed the IFCC booth at which there were demonstrations of advanced multimedia. A meeting of Editors of Clinical Laboratory Journals was held in conjunction with the general meeting for the International Journals, chaired by Stephan Halloran (UK). It was decided that another meeting of this type should be organized during EuroMedLab in June 2003.

IFCC website

The web management is under the responsibility of C Webster (IFCC WWW coordinator) and E Maffioli (IFCC Office). During 2002 three workshop/training sessions were held for the IFCC office staff, which are now proficient at web-site development and maintenance. Topics included general information on the internet/world-wide-web, the software used, principles and design of web pages - with particular reference to the software used for the IFCC web-site (Frontpage®, Adobe Photoshop® and Adobe Acrobat®; and product development and management.

The principle web-based products are the home page, the IFCC bookstore, the IFCC databases (with versions for internal use only, and for external access), the eJIFCC, the IFCC News, and the “Rincon Iberoamericano”. Major achievements of the WG were the development and launch of a new web page, the development of links to the web-sites of members (country and corporate), and the

placement of web banner advertising. The FESCC web-site is now managed/maintained by the IFCC. It was suggested that offering web-site management services to member societies could be a new service.

per months of 2002. The most visited page on the web site was the home page. The top ranking pages are identified in Fig 2. Statistics for the news indicate that the readership is widespread, with over 300 accesses out of the 2000 promotional emails sent out. Analysis of the entry points into the IFCC web site indicate that most people come directly to the web site, with a relatively small number being directed to IFCC from other web sites (search engines or member society web sites). The most common entry points are illustrated in Fig 3. Analysis of the time spent on the web site indicates that an average of 1 minute is spent viewing content on the web site, usually specific information rather than browsing. This could indicate that there is a need to develop our navigational structure to help these people find information quicker. Most people look at one page then leave, which suggests that if they do not find the information they are looking for straight away they will leave the IFCC web site.

During the Kyoto meeting, the web team asked users of the web site what they thought about it. Most of the feedback was very constructive, and indicated the following:

- A significant number of people were still not familiar with the web site
- Most people visit the site monthly or not at all

Statistical report: The web site continues to grow with over 20,000 sessions recorded for the site each month for the period Sep - Dec 2002 (Fig 1). Statistics for January 2003 indicate 25,000 sessions recorded. This is an increase of >100% over the 12

- Most people do not want to see national society news on the web site
- No clear consensus was seen on the issue of reporting lab med news
- A majority of people wanted to see more links to journals
- A majority of people who filled in the questionnaire were interested in becoming more involved in the IFCC

Kyoto also gave us the opportunity to talk to members of other divisions, working groups and helped to prioritize certain developments on the web site.

Bookstore report

The bookstore is online. E Maffioli, IFCC office secretary, has received the necessary training to operate and manage the bookstore. Due to the nature of the integration with Worldpay it is sometimes possible that the order is not marked complete in the bookstore, suggesting that an invoice cannot be generated. New store software based on the ASP.NET system has been purchased and is currently in development. The activity of the bookstore is low, but it is beyond expectations and access statistics. New products are constantly needed to make this venture a success.

Figure 1: Web Site Access

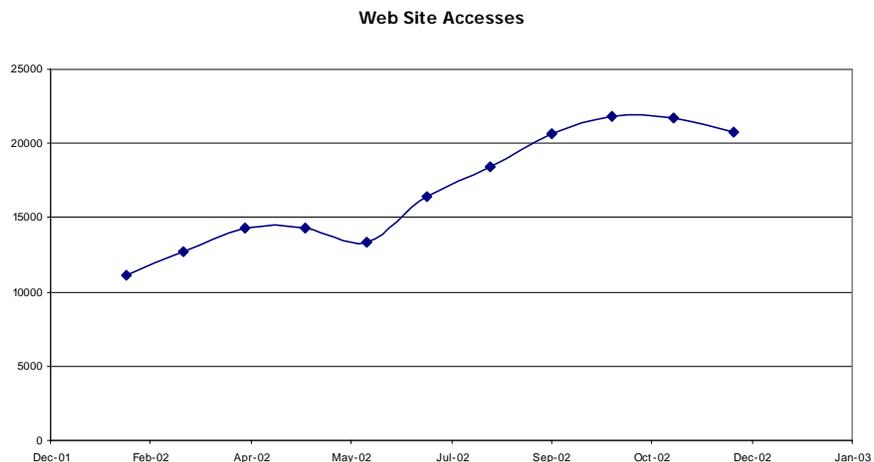


Figure 2: Web site traffic by location visited

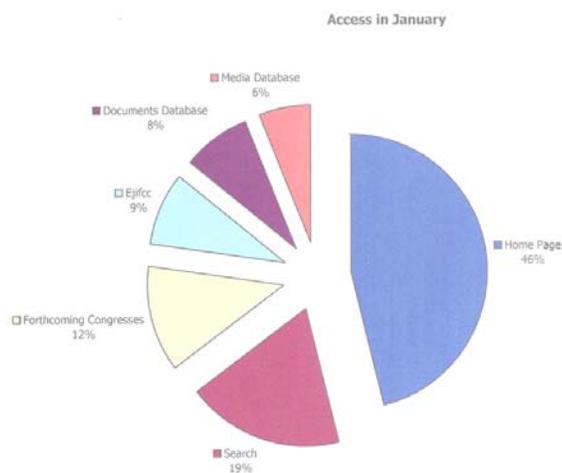
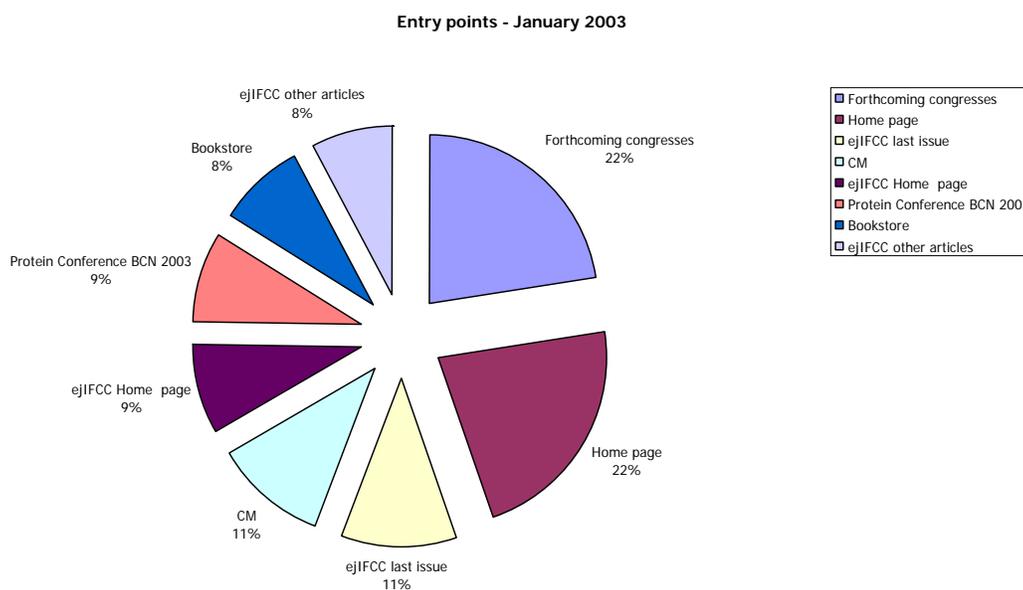


Figure 3: Entry Point into Web site



Collaboration with Corporate members

The CPD chair attended the CM meetings in Orlando (July 28-August 1st) in order to encourage corporate members to be more involved in CPD activities and to reinforce their support in the development of multimedia activities, computer facilities, and sponsorship for the IFCC activities. Radiometer, Chronolab and Wako reconfirmed their contribution for a e-banner .

IFCC recommendations and other documents

The Editor of documents coordinated the publication of working parties publication with journal editors. Eleven documents were published in 2002: Since 1975, a total of 267 documents have been published: IFCC Recommendations (46), Technical Reports (117), Position papers (60), Editorials (30), Guidelines (13), Other (1). Based on information from the SD Kyoto Meeting Minutes, the SD has 10 publications in various stages of preparation. The list of IFCC documents published since 1975 was completed and placed on the IFCC web site in May. The list has been updated as new documents are published. Updates were made in July 2002 and December 2002.

Publications in CCLM. The list of the members receiving free on-line access was updated. The agreement with IFCC and Walter de Gruyter allowed the publication in CCLM of one issue of IFCC news (May) and seven documents on IFCC primary reference procedures for the measurement of Catalytic Activity Concentrations of Enzymes at 37°C. The HbA1C approved IFCC reference measurement procedure was published in the January issue. Two articles on the management of the clinical laboratories and practices in European Union were published, one in February and one in March.

WG-eJIFCC

eJIFCC has received an ISSN number (1650-3414). The eJIFCC is a wholly electronic publication coordinated by D Williams (UK) as Editor in Chief, and the WG-eJIFCC. A subscription mailing list is implemented, which allows readers to be quickly informed of a new issue. eJIFCC is one of the most

visited sections on the website. The instructions to the authors were updated according to criteria for electronic communications. Three issues were published in 2002, containing a total of some thirty papers.

- Volume 14, n°1 was focused on clinical papers on diabetes and on the effects of growth hormone and steroids. There was also a new section called: Views-Reviews. These are technical notes published as a part of the eJIFCC and available in different languages. The article on Haemolysis as an Influence & Interference, edited by L Thomas, was translated in Spanish, German, and English

- Volume 14.n°2-3: This double issue was focusing on New Trends in Classification and Management of Diabetes Mellitus. The Croatian Society of Medical Biochemists and the Slovenian Association for Clinical Chemistry, together with the Forum of the European Societies of Clinical Chemistry, organized the first in a series of postgraduate weekend conferences. This was held in the Interuniversity Centre, Dubrovnik, promoting the beginning of continuous postgraduate education of experts in clinical chemistry and laboratory medicine. This issue was in three sections. The first was devoted to the basic concepts of diabetes mellitus, with topics on pathophysiology, new diagnostic criteria, new classification, modern therapeutic approaches, genetic aspects, immunology, and modern aspects of laboratory diagnosis and monitoring. The second section focused on complications of diabetes mellitus: arteriosclerosis and thrombosis, oxidative stress, the possibility of early detection of chronic and acute complications, coagulopathy, glycation and age, apoptosis, and bone metabolism in DM. The third section was devoted to the control, quality assessment and management in DM.

WG-IFCC news

Ellis Jacobs reinforced the membership of the WG-IFCC news with an increased representation from national members: R Galimany (SP), M Hjelm (UK), J Lopez (MA), H Morris (AU), S Raymondo (UR), G Shannan (SY), R I Sierra-Amor (MX), D Gruson (FR). Five electronic versions of the IFCC news were prepared in 2002 (January, April, July, October, November), each including an editorial from the CPD chair. News and information is published about the activities of IFCC Members, as well as news from Corporate Members. IFCC news

also provides early information about discussions taking place within the expert groups in order that the topics of current concern - and future developments - are known to all those practicing in the field. A calendar of all IFCC congresses and meetings is also published. IFCC news is available on the IFCC website, and can be automatically e-mailed to all individuals who subscribe to the news. Additionally, each edition of the IFCC news is printed in Lab Medica International (Globotech Publishing, circulation 28 000), and an edited version appears in Clinical Chemistry and Laboratory Medicine. The July-August 2002 issue of Lab Medica International contained a copy of the Annual report 2001. This is in order to expand availability throughout the world -especially for those who do not have access to the internet - and to reach a new readership.

WG-Ibero-American Nomenclature and Translation (WG-IANT)

The Rincon Iberoamericano (RIA) segment of the IFCC web-site is managed by X Fuentes Arderiu. It is operational with a section "libros", showing the covers and tables of contents of recommended books, CD-roms relevant to clinical chemistry and laboratory medicine; and e-books, including a style manual "Manual de estilo para la redaction de textos científicos y professionals" which is available in pdf format.

During 2002 the main activity of the WG-IANT was the conception and development of the Spanish and Portuguese electronic journal "Dignóstico in vitro", situated within the web at the Iberoamerican Corner. This project was initially presented in a round-table of the IFCC-CPD at the congress of the Spanish Association of Pharmaceutical Analysts (AEFA) held in Córdoba (Spain) in April 2002. The membership was expanded in order to include Portugal in the WG-IANT activities. The members are: F Argana-Gomez (PA), L Bertello (AR), M Blanes-Gonzales (PA), M J Casteneiras-Lacambra (SP), J Guariguata (VE), H Marques-Tiburcio (BR), E Melo-Gomes (PO), M Morejon-Campa (CU), C A Oquendo (PR), S Raymondo (UR).

eHandbook and Handbook

The e-Handbook is continuously updated on the web by L Ionescu (IT) and E Maffioli, IFCC office, Milan (IT). It was decided that a printed version of the Handbook 2003-2005 will be edited jointly by

the IFCC secretary and the CPD chair, and distributed at the Barcelona meeting in June 2003.

Monographs "IFCC series" and the 50th Anniversary Book

IFCC series are multidisciplinary series featuring an in-depth study or group of closely related studies per issue. During 2002, three monographs were published:

- Tumour markers: review and clinical applications by M Vogl and M M Müller
- Laboratory guidelines for screening, diagnosis and monitoring of hepatic injury (a National Academy of Clinical Biochemistry guideline).
- Monitoring glycaemic control in the diabetic patient, by G John

The 50th anniversary book written by J Lines and J Heeren, edited by R Sherwood, was printed with the collaboration of the ACB and distributed at the Kyoto meeting. A CD-rom version was also made available and mailed to the IFCC officers at the end of the year, together with a greeting card designed by Dagmar Martens, a painter living in Provence (FR).

Electronic publications (CD-ROMs)

3 CD-ROMs were edited by IFCC in 2002 and are available at the web bookstore: the Handbook 2002, the 50th Anniversary Book and "Point of care Connectivity, approved standard", joint publications between IFCC-NCCLS and CIC (Connectivity Industry Consortium).

IFCC document package and external communication

The CPD also undertook the organization of the IFCC booth at New Delhi (IN), Morelia (MX) and Kyoto (JP) meetings. The booth was a successful meeting place at all of these events. The presence by CPD members allowed them to better identify the needs of members and to present the most recent web developments. Surveys were carried out, with gifts to reward participation.

CPD productions in 2002 included the:

IFCC brochure 2002: The IFCC brochure publicizing the IFCC organization was printed for the IFCC congresses, distributed at the meetings, and made available from the IFCC office in Milan.

IFCC posters: 23 IFCC posters and historical posters were prepared according to the new graphic line, gathering the information from the EB and the IFCC divisions. A booklet of these posters was published with the title “Charting the Milestones of IFCC”. The booklet was distributed free of charge to the IFCC officers, National representatives, and Corporate members. The posters are available on request for display at the IFCC congresses.

IFCC package and gifts: The new IFCC image was set out in folders which were distributed at each meeting, to celebrate current and forthcoming events, and including pens, document cases, badges and bookmarks. These were also much appreciated by visitors.

Perspective

The CPD made considerable efforts to initiate contacts with IFCC members (national societies and corporate members) to identify requirement for information and services based on e-communication and e-publications. The CPD is continuously developing the website, the use of the internet and of multimedia, and exploring e-commerce applications for the benefit of IFCC members. The CPD develops and applies tools for new communication technologies and interactive networks applied to knowledge management. CPD is developing these tools in inter-professional, inter-linguistic, and interregional approaches in order to be truly useful to emerging countries and regions, as well as to established national societies. The CPD is deeply committed to the incorporation of current and emerging medical and scientific developments, regulatory issues, and health economics in the services provided to members. The CPD challenge is to maintain a balance between prospective future-oriented activities and to activities, which rapidly become obsolete or out-dated. The challenge is to do this with services for members who work in very different healthcare systems, and to provide services of value to Corporate members, National societies and individuals scientists in all clinical laboratory disciplines. Thus the CPD requires members with experience and vision that can be transposed to these future needs, without necessarily being fixed

in the past (and out-dated) constraints of the health-care system.

The last challenge is to increase the IFCC image through communication and public relations which encourage young scientists who are active at national level to be active in IFCC, and to avoid too many positions being filled by retired laboratory scientists whose experience was gained under conditions which may be less relevant to today's challenges.

Congress and Conference Division (CCD)

International Congresses

The highlight of 2002 was undoubtedly the very successful 18th International Congress of Clinical Chemistry and Laboratory Medicine (ICCC), held in October in the fabulous city of Kyoto in Japan. Six years of planning and meticulous attention to detail by the Japanese Society resulted in a congress of the highest scientific quality and a vibrant exhibition in the truly outstanding Kyoto International Conference Hall. A total of ~4800 participants from 81 nations enjoyed the science, the culture and the warm welcome from the host society and the host city. In a fitting close to a memorable congress a ‘Declaration of Clinical Biochemists’ was adopted as the basis for future international collaboration within the profession. The members of CCD congratulate the Japanese Society on a triumph of organisation and thank them for enabling us to be a part of this great occasion.

And so the baton passes to Orlando in the USA for the 19th ICCCLM in 2005. Another successful congress seems guaranteed although it will be very different to Kyoto in size, style and culture. The organising committee is well advanced with the planning and anticipates that more than 20,000 people will participate in the largest ever congress of Clinical Chemistry and Laboratory Medicine. The CCD continues to support the organisers in terms of the IFCC component of this congress.

It takes six years to plan an ICCCLM and so the venue for the 20th ICCCLM in 2008 was announced in Kyoto – Fortaleza in Brazil. The CCD invited all Full Members of IFCC to bid to host this congress.

They then assessed the bids received using an objective scoring system and passed a recommendation to the Executive Board, who took the final decision. The CCD looks forward to working with the Brazilian Society to deliver this congress.

Regional Congresses

There are four regions within IFCC and each organises its own Regional Congresses of Clinical Chemistry and Laboratory Medicine (RCCCLM). The CCD has an important role to support and co-ordinate these RCCCLM's. The only RCCCLM to be held during 2002 was the Asian Pacific Region congress in New Delhi, India. This congress had originally been planned for November 2001 but had to be rearranged to March 2002 in the aftermath of the terrible events of September 11th 2001. It is a tribute to the Indian Society that the rearranged congress in the splendid Hotel Ashok managed to deliver a high quality scientific congress and cultural experience to a large and appreciative audience of delegates and exhibitors.

Future RCCC's in the Asian Pacific Region are planned for Perth in Western Australia in the autumn of 2004 and Beijing in China in 2007. The CCD is working very closely with the Perth team and is establishing links with the Beijing team.

In Europe the biennial programme of 'EuroMedLab' RCCCLM's sees Barcelona in Spain as the next venue in June 2003. From the perspective of CCD this congress has been a model of how to organise a congress in detail and well in advance, and it has been coupled with exceptional publicity and promotion. It seems likely that Barcelona 2003 will be a huge success – in every sense of the word. Two years later the 'EuroMedLab' bandwagon will roll north to Glasgow and the CCD has very close links with the organizing team. During 2002 an invitation was issued to host the EuroMedLab congress for 2007 – bids are being evaluated and the successful site will be announced in Barcelona.

The Arab Federation has selected Monastir in Tunisia as the venue for its next RCCC in May 2004 and planning is well advanced. The Executive Board has decided to run its next General Conference as a satellite meeting to this RCCCLM

and the CCD and the IFCC Office have taken steps to commence the planning of this important event.

The Central and South American Region (COLABIOCLI) will hold its next RCCCLM in Costa Rica in the Spring of 2003. Thereafter, the next two RCCCLM's will be in Asuncion in Paraguay in 2005/06 and in conjunction with the ICCCLM in Fortaleza, Brazil in 2008. The CCD has offered its assistance and support in all of these congresses.

IFCC Specialised Conferences

The second IFCC Beckman Coulter Protein Conference will be held as a satellite meeting to Barcelona 2003. Thanks to good planning and organisation this specialised conference has been promoted together with the RCCCLM and it seems likely to be at least as successful as the first event held in Prague in 2001. The 9th Bergmeyer Conference, organised in conjunction with Roche Diagnostics, will be held in March 2003. This master discussion will address the topic of 'Nucleic Acid Markers for Bacterial and Viral Infections' and will be based in Eibsee near Garmisch Partenkirchen, Germany.

IFCC Auspices

The CCD awards IFCC Auspices to high quality conferences in the area of Clinical Chemistry and Laboratory Medicine. This mutually beneficial arrangement enables IFCC to promote congresses of interest to its members whilst the organisers promote IFCC as supporters of relevant congresses. This arrangement continues to be popular and during 2002 a further 12 conferences received IFCC Auspices.

Promoting the Role of Conferences

During the Kyoto 2002 congress the CCD made a presentation on the positive contribution that scientific conferences make to the development of the profession and international collaboration. The CCD has produced a range of support material for the organisers of conferences to recommend the steps that need to be taken at each point in time

during conference organisation. This material is available from the IFCC website.

Meetings and Membership

The CCD functioned efficiently during 2002. It held just two meetings – in Nürnberg, Germany in April and in Kyoto in October. In between times the benefits of electronic communication were exploited to the full. The main additional business addressed the sensitive issue of the financial arrangements associated with the organisation of ICCCLM's and RCCCLM's and the new arrangements have been incorporated into the guidelines available from the IFCC website.

After a period of stability, planned changes in the membership of the CCD took place at the end of 2002. Graham Beastall (UK) and Hermann Wisser (DE) both completed their terms of office as elected members and Paul Whitlock completed his term of office as the Corporate Member. Full Members were contacted to suggest replacements for Graham and Hermann and a very strong field of candidates was obtained. After careful consideration it was agreed by CCD and EB that the replacements should be Istvan Vermes (NL) and Andreas Rothstein (CO). Associate membership was accepted by a further four individuals. The Executive Board has appointed Lasse Viinikka (FI) as the new chair of CCD for the period 2003-05.

Education and Management Division (EMD)

Introduction

This part of the Annual Report report 2002 reflects the activities of the Education and Management Division (EMD) of the IFCC over the year 2002.

The Division continued its activities along the lines initiated a few years ago. The strategy then outlined to make sure that activities are more output-driven was continued. This means: Response to the need of IFCC members; identification of relevant areas; guidance of laboratory professionals; creation of and participation in programs; production of educational documents. Implementation of this strategy is done by: Critically evaluated information (projects, courses, lectures, visits, documents); covering all relevant topics (via committees, WG's, VLP, specific projects); reaching it's target

audience (IFCC members, students, industry, governments, general public).

For specific topics new Working Groups have been established or are in the phase of being created.

As a general policy it was stated that Committees would seek as many Associate Members from the National Societies as possible: they are the key individuals.

The new office in Milano with the secretarial support of Lisa Ionescu and Emanuela Maffioli is a great help for the Division, especially so since all EMD information can be spread and updated in a fast way via the IFCC Web-site among the IFCC membership. Executive Committee (EC), Committee and Working Group Chairs are getting excellent support from Craig Webster and Emanuela Maffioli in creating and maintaining the new IFCC Web Site. EMD is using the Web site to put as much information on it as possible, in order to increase communication with the IFCC membership.

In the following paragraphs the activities of every part of the Division are reviewed.

Executive Committee

The Executive Committee (EC) consisted of Gerard Sanders (NL) Chair, Ian Wilkinson (CA) Vice-chair, Sue Evans (US, Corporate Representative) Secretary, and Michael Mayer (IL) Member.

Since the officers of the Division are appointed for a limited time only, regularly we are in search for new members for our Committees and Working Groups.

In February 2002 another action to ask the societies to come forward with candidates was taken. Job descriptions were added to the request for membership (full or associate) of the different Committees and Working Groups; for the EC the request for a new representative of the Corporate Members went out.

Also, the EMD tried to present itself better to the membership of IFCC: the Web pages were updated, and the catalogue of services that EMD can provide was put on the Web.

The EC has been in contact with different colleagues who have produced education materials, which were offered to EMD for publication. These

initiatives were appreciated very much by the Division. They showed, however, that EMD is in need of a good reviewing process, in co-operation with the other Divisions. That has resulted in the proposal for the formation of a Working Group on Reviewing of Educational Materials to ensure that the best publications will be made available to the membership of IFCC. At the EB meeting in Kyoto this WG was formally approved.

Also, the continued discussions on future strategy have resulted into an action to put more efforts in discerning good teaching materials for the IFCC membership. Other items are: directing attention to distant learning, and in combination with the Publications Division paying more attention to the public awareness for our profession. In relation to this latter point, the EMD again gave its full support to the re-launch of the Global Campaign for IFCC to improve the Diagnosis and Management of Diabetes. This happened at the Kyoto congress. The activity is seen as an important tool to create awareness for our profession at the general public.

In 2002 the EC met in Morelia (Mexico) during the congress organized by the Mexican Society for Clinical Biochemistry for their 25th anniversary. As part of the programme the EMD presented a one-day symposium titled "an update in clinical laboratory management". The lecturers were Michael Mayer, Ian Wilkinson, Lynn Allen, and Gerard Sanders. The course covered different aspects of laboratory management, laboratory consolidation and total quality management addressed by giving examples of their own country experiences' which was useful and updated information provided to the audience. Most of these lectures will appear as an IFCC Monograph. Moreover, Lynn Allen, Chair of C-ECD was one of the speakers on "education and managerial skills in clinical laboratory sciences". At the AACC meeting in Orlando (USA) the EC met for one morning to go over the status of the ongoing activities and to prepare for the 18th ICC in Kyoto. There the Division has been present in the following activities: Symposium on Evidence Based Laboratory Medicine (Sponsored by IFCC EMD C-EBLM), Symposium on Evidence Based Laboratory Medicine in relation to the Global Campaign on Diabetes Mellitus (Sponsored by IFCC-EMD-SD). Symposium on External Quality Assurance, which will be the core activity of the 3rd world meeting of

EQAS organizers, both organized and sponsored by IFCC-EMD C-AQ.

In Kyoto the Division had to say goodbye to a number of officers whose term ended. Their activities were greatly appreciated.

After the Kyoto Congress the Division In November 2002 the Executive Committee met in Washington to plan future activities.

Committee on Clinical Molecular Biology Curriculum (C-CMBC)

The name of this committee was changed from Committee on Molecular Biology Curriculum to Committee on Clinical Molecular Biology Curriculum, since EMD is primarily involved in clinical applications of molecular biology. The Committee started its activities under a new chair that is an experienced educator in the field of clinical molecular biology.

Plans are now being developed for Courses in Molecular Biology Techniques (3 to 5 day courses). This is a challenging activity, since this includes a practical session. This limits the possible spots in the world where a course on molecular biology can be held: one must have laboratories with the expertise and appropriate facilities. The inclusion of a practical session also limits the number of participants.

A second assignment for C-CMBC are courses in teaching Molecular Biology in Laboratory Medicine, which is another challenging issue.

Committee on Analytical Quality (C-AQ)

To pinpoint analytical problems as a trigger for quality improvement, the current work items of C-AQ are concentrated on external quality assessment schemes (EQAS) and external quality assurance programs (EQAP). This is being done via Serum Donation Projects, Network of Reference Laboratories for Enzyme Measurement (NERLM), Software for EQAS Management and Data handling, Courses & Publications, Co-operation with IRMM/IMEP -17 and Developing Guidelines on EQAP.

The existing Serum Donation Projects (SDP) have been going on. This project, which has been running since 1977, is aimed to help candidate EQA organizers in developing countries to establish new External Quality Assessment Schemes or to support existing ones by provision of donated control serum. Countries that benefit from it are: Dominican

Republic, Bolivia, Uruguay, Iran, India, Bulgaria, Costa Rica, Paraguay, and Lebanon. Main industries and National organizations in Denmark, Argentina and Belgium have given support.

The Network of Reference Laboratories for Enzyme Measurement (NRLEM) continued its work with assigning values for ALT and AST to EQAS control material in Argentina, and developing the SOPs for the measurement of both enzymes, is running between Argentina and Germany. The project is now in its second stage and a new enzyme, GGT, has been added to it. Expanding the Network to other countries is being considered.

Experience with the software for EQAS management and data handling has been acquired in several countries among which Bolivia, Uruguay, Dominican Republic, Chile, Guatemala, Paraguay, Mexico, Costa Rica, and Slovakia. After experience with the Software for EQAS Management was gained in several countries Mexico, Venezuela, and Costa Rica have become new users.

Training courses for EQAS Organization and Management have been continued and are currently given on a regional basis. The 4th course on organization and administration of EQAS was held in Buenos Aires, Argentina September 7-10, 2002.

C-AQ is involved in the IRMM/IMEP-17 project (Institute for Reference Materials and Measurements/International Measurement Evaluation Program -17), which is an inter-laboratory comparison study (www.imep.ws). This project is intended to promote standardization and traceability on a worldwide basis. It comprises some 50 countries and some 18 analytes. The material, frozen unmodified and modified human serum, is distributed in several countries to be processed in selected Reference and Routine laboratories. C-AQ endorses the project and is in contact with EQAS organizers, which have possibilities to receive the materials and distribute it in frozen status to the participating laboratories. The outcome of this project has been discussed at the C-AQ meeting at the 18th ICC in Kyoto.

On the IFCC Web-site EQAS software for EQAS management and data handling, publications, educational material, and guidelines for the requirements for the competence of External Quality Assessment Program (EQAP) Organizers can be found.

Committee on Evidence Based Laboratory Medicine (C-EBLM)

The Committee on Evidence-Based Laboratory Medicine (C-EBLM) has been actively supporting the validity and effectiveness of clinical decisions, and disseminating the results of evidence-based practice. Members of C-EBLM participated in 2002 six international symposia and congresses. In the last few years, Committee members and/or the committee's associate members, have published some 30 papers in total to disseminate EBLM in international journals and in their own countries. At four Web sites the activities can be retrieved.

At present the committee has 13 contact persons / associate members.

The Committee started its own database on EBLM and systematic reviews; on the website of the committee (<http://www.ckchl-mb.nl/ifcc>) a critical appraisal toolbox on how to evaluate systematic reviews as well as other articles on systematic reviews published by committee members and others can be found. The Japanese Society of Laboratory Medicine has also developed a website in Japanese of critically appraised data on the effectiveness of laboratory investigations. (<http://ebd.umin.sc.jp/eblm/>). Another approach has been started in Hungary, based on the Oxford Clinical Intranet system and a demo version of the Hungarian Clinical Intranet on evidence-based diagnosis of hyperkalaemia has been prepared (<http://tudor.szote.u-szeged.hu>).

The co-operation with the Cochrane Collaboration was continued.

Also, C-EBLM has co-operated in an international collaborative project that has been started by a Swiss group of primary physicians and epidemiologists, in association with the Diagnosis and Screening Methods Group of the Cochrane Collaboration. This initiative is called the Bayes Collaboration, which has elaborated the "Bayes handbook" for systematically reviewing the primary literature of diagnostic studies. This handbook is a systematically compiled database of standardised and critically appraised information on the characteristics (sensitivity, specificity) and discriminatory power (predictive values, likelihood ratios, etc.) of any type of test used in health care. In addition, the database will contain information on the prevalence of diseases and conditions in different settings and patient groups and provide a user-friendly interface and search engine.

C-EBLM does not only achieve its aims by providing the evidence, it is also engaged in the implementation of evidence into daily use, and integration of this process with quality management in laboratories. One way of achieving this aim is the

development and implementation of evidence-based guidelines, followed by monitoring the effect of implementation. In Norway, the Norwegian centre for quality improvement of primary care laboratories (NOKLUS) includes case histories, together with the external quality control material. General practitioners are asked to answer a few questions about the assessment of a test result in the clinical situation described. In the feedback reports, guidelines are included and discussed. The method is educational and resulted in several publications. A similar co-operation project is now running in several countries.

Committee on Education and Curriculum Development (C-ECD)

At the end of the year 2002, new members were welcomed to fill vacancies on the Committee.

C-ECD has reviewed its activities and designated specific fields of interest. These are: curriculum development; development of templates for teaching and training and dissemination to the IFCC membership; define the core knowledge of laboratory medicine and to ensure the input of laboratory medicine into core curricula; explore new ideas and directions in teaching laboratory medicine; produce assessment reports on available educational materials; multi-professional learning; development of international teaching materials; distance education.

Educational Modules in Laboratory Medicine are being developed. These can either be published and used for distant learning or posted on the EMD Web pages. Plans are also underway to develop educational modules for the IFCC website on the teaching of clinical topics in laboratory medicine.

Distance Learning Websites. It is planned to contribute to distance learning objectives of the EMD by compiling resource information on websites with good educational topics in clinical areas. The plan is to 1) develop criteria to evaluate website educational material, 2) search for websites with good educational material, and 3) list sites against syllabus topics to provide resource information for distance education. This project will start with an inventory of existing information.

The work of the Committee is supported by a number of Associate Members. Initiatives were taken to reinforce the dialogue with each of the Associate Members, and to work with them to improve education in clinical laboratory sciences.

Moreover, the Committee guided the Working Group on Master of Laboratory Science (La Plata project, see next item)

Working Group Master in Clinical Laboratory Science (WG-MLS); La Plata Course

This two-year course is a co-operation between the IFCC and the National University of La Plata (UNLP), La Plata, Argentina. The first course leading to the degree of Master in Clinical Laboratory Sciences now has been completed. The visits of the four Visiting Professors, in Genetics, Hematology, Tumor Markers, and Laboratory Management have taken place. Three students have been discerned for a visit to an overseas laboratory for 2 months. Two visits are taking place, a third one is pending.

A Handbook on La Plata, to serve as a model for Masters Programs in other parts of the world is being written.

Since this course is running well, a second cycle of the La Plata Program (2002-2004) has started.

With the experience from the La Plata project EMD expects to offer other such courses to the Membership of IFCC.

Visiting Lecturers Program

The Mission of the VLP is to promote and share knowledge and skills (professional, technical, managerial and educational) in Clinical Chemistry with all National Societies of the IFCC. The key objectives are to support international exchange of lecturers and contribute to the creation of educational networks and partnerships which would bring together activities of different IFCC regions and between National Societies.

The use of the redesigned application forms on the IFCC Website has proven to be a good improvement. In the year 2002 two Visiting lectureships were granted: one to Brazil (tumor markers and molecular biology in the clinical laboratory) and one to the Asian Pacific Region (reference materials and traceability). More requests are pending; EMD considers it as its major challenge to solicit applications. We are proud to be able that in 2003 sponsorship for this important program will be obtained from Diagnostic Products Corporation (DPC).

Working Group on Flowcytometry

In accordance with the strategy of EMD to offer more courses on modern technologies to its membership, flowcytometry has been chosen as the

first subject for this initiative. A Steering Committee under guidance of Dr Gregor Rothe (DE) is organizing a yearly symposium on and a course in Flowcytometry, with the support of Beckman Coulter: the IFCC/University of Mainz course on Flowcytometry with one German and one English edition.

In 2002 the WG organized a symposium and course on "Clinical and Research Applications of Flow Cytometry in Hematology and Oncology" on 31 May to 4 June 2002 at the University of Mainz. This meeting was well received by the participants. The WG itself met on 2 June 2002. Plans for next year's course have been made.

It is the intention of the WG to publish the course book as an educational material of IFCC. Therefore, a limited number of additional copies of the course book will be generated in an only slightly modified version, which are available at the IFCC bookstore.

WG on Laboratory Management of r-HuEPO therapy (WG EPO)

In July 2002 a new Working Group initiated by Prof. Lothar Thomas (DE) was officially announced: "Laboratory Management of r-HuEPO therapy: guidelines for assessment of the optimal therapeutic approach". The scope of the WG EPO will be the replacement of blood donations by r-HuEPO therapy. Topics to be addressed are to review the literature for laboratory tests which can be recommended to select patients for r-HuEPO treatment, to review the literature for tests useful to monitor r-HuEPO therapy, to recommend scientific investigations, and to publish best practice guidelines. The first meeting of this WG was September 8-10 in Frankfurt/Main, Germany.

Future plans

A fixed item on the EMD agenda is how to improve the relations and co-operation with the different regions in IFCC, the National Societies, and the Corporate Members. For the years to come EMD is seeking more input from them. That means on one hand they can offer experts, on the other hand programs of EMD will be based on their requests.

One important new activity is the *WG on EMD Publications*.

EMD often needs to judge the worthiness of documents brought forward by enthusiastic colleagues within the field of clinical chemistry, and

EMD has no mechanism for rapid document assessment. To facilitate a timely review process for received external documents, CD-ROMs, and other materials, a WG on EMD Publications within the Education and Management Division is being formed now. In addition, the EC, a Committee, or WG of EMD may from time to time, consider it appropriate to initiate the writing of a document. It is proposed that a short list of reviewers/authors (from within or outside EMD) is made. These colleagues can be approached when a document reaches the EMD, or when the EMD wishes an article to be written. The reviewing process must have a limited time frame. An additional advantage may be that documents may be offered by the National Societies once the Editorial Board is active within IFCC.

The EMD is of the opinion that diffusion and explanation of ISO and CEN documents should be promoted. The Division is seeking ways to improve this process.

Finally, it is the intention of EMD that for more modern technologies courses will be offered, like the one for Flowcytometry. EMD will not at all be able to run all these courses itself and the aim will be to co-operate with others in this matter.

Scientific Division (SD)

During 2002, the following members served on the SD Executive Committee: Jean-Claude Forest (Canada) (Chair); John Ratcliffe (UK) (Vice-Chair); Jos H. Thijssen (Netherlands) (Secretary); Thomas Moyer (USA); Mauro Panteghini (Italy), Howard Morris (Australia); Rolf Hinzmann (Germany) (Corporate Representative) and Carl Burtis (USA) (EB-Liaison). Two meetings were held, in Vienna (March) and in Kyoto (October). Heinz Schimmel (Belgium) attended the two meetings as observer from IRMM and David Bunk (USA) attended the October Meeting as observer from NIST. Yoshihisa Itoh remained the liaison to the ICC Kyoto (Japan) 2002. SD created open and closed sessions during its meetings, the closed sessions will be for IFCC executives only.

From Jan 2003, I. Young (UK) and N. Rifai (US) will take up replacement appointments.

Relationship with International Organisations

In recent years the Scientific Division (SD) has focusEd on standardization issues, particularly provision of internationally recognized reference materials and reference methods. This work is increasingly fostered by the establishment of strategic collaborations with partner international organizations concerned with related aspects of laboratory medicine. Currently, major joint initiatives include:

Joint Committee on Traceability in Laboratory Medicine (JCTLM).

IFCC through SD is playing a leading role in the creation of the joint committee together with three other key players Bureau International des Poids et Mesures (BIPM), World Health Organization (WHO) and International Laboratory Accreditation Cooperation (ILAC), in cooperation with supranational manufacturer organizations. The aim is to establish a global platform to promote internationally recognized equivalence of measurements in laboratory medicine and traceability to appropriate measurement standards, such as European IVD directive (98/79). IFCC was the co-organizer for a recent workshop in Paris. It this occasion the JCTLM was formally founded.

Institute for Reference Material and Measurement (IRMM).

Collaboration with IRMM is working well and provides European support on standardization issues. Practical outcomes include reference materials for specific plasma proteins (CRM470), cortisol (IRMM/IFCC 451) and reference methodology for enzymes. Further materials in the process of certification include HbA1c, myoglobin, total plasma protein and prothrombin G20210A mutation. Joint efforts on standardization of stem cells, cell lines and allergenic proteins are under consideration. A WG on “Analytical Uncertainty based on clinical usefulness” Is under discussion.

An observer from IRMM is invited to attend all SD meetings and act as consultant.

National Committee for Clinical Laboratory Standards (NCCLS).

The newest NCCLS Catalog (2002-3) lists several other projects in development as joint NCCLS/IFCC projects: Clinical utility of bone markers, Determining clinical utility of genetic tests, Performance of cellular immune functional

assays, Protocols for determination of limits of quantitation, Quality assessment programs for molecular methods, Molecular methods for microarrays, Sample collection and handling for molecular test methods and Free thyroid hormone measurements. These projects will result in guidelines published as joint NCCLS/IFCC documents.

WHO Collaboration with National Biological Standards and Control (NIBSC)

This has led to the production of 6 *human chorionic gonadotrophin* (HCG)-related reference preparations. These were accepted by WHO as International standards for immunoprocures with assigned values in molar units. This project represents a significant step forward in the measurement of HCG-related hormones in biological fluids. Furthermore, materials in excess of the requirements for International Standards will be handled by IRMM to make them available for commercial distribution.

WHO

The collaboration has continued this year with the submission by WG-Lp(a) of a candidate reference material to the Expert Committee on Biological Standardization of WHO. The ECBS-Meeting has been postponed until February 2003.

International Association for Therapeutic Drug Monitoring and Clinical Toxicology (IATDMCT)

The joint WG on Laboratory Practice Guidelines on Monitoring Immunosuppressive Drugs is very active. The goals of the WG in light of the latest developments in the field have been published (*Therapeutic Drug Monitoring* 2002;24:50-67), several monographs are in preparation.

International Society of Thrombosis and Haemostasis (ISTH)

The Joint Committee on Standardization of Coagulation Tests (C-SCT) has published a position paper: “*A Reference System Approach to Future Standardization of Laboratory Tests for Haemostasis, Thromb Haemost* 2002;87:165-9”, accepted by both organizations.

National Societies will be approached for nominations of candidates for the C.

A proposal for a WG on antithrombin was received and accepted, see WG-SAT. The proposal for a Material Transfer Agreement of rec-h-antithrombin will be handled by EB, suggestions for improvement of the proposal have been given.

European Commission

The project on Thyroid Diseases, funded by the European Commission, is running properly. Through C-MBT, IFCC is involved in another European initiative related to genetic tests for rare diseases.

National Institute of Standards and Technology (NIST)

IFCC-SD is pursuing its collaboration with NIST through JCTLM. An observer from NIST is now invited to attend SD meetings. He will act as consultant.

Conductivity Industry Consortium (CIC)

IFCC is an affiliated member of the Consortium and SD has participated actively in the preparation of a document on Point of Care Testing. The IFCC-WG on Selective Electrodes (SE) has been transformed into a C, and is expected to move towards a new working direction related to Point Of Care Testing. National Societies will be approached to nominate members for the C. The development of International Standards for the Delivery of Point of Care Testing and several other suggestions have been discussed as possible topics to be studied by the new C.

18th International Congress

During the 18th International Congress of Clinical Chemistry and Laboratory Medicine (ICCC Kyoto Japan 2002), SD has been responsible for a Symposium (SS-4) on “Standardization in Clinical Chemistry and Laboratory Medicine”, summarizing the activities of the Division in this area. In recognition of the 50th anniversary of IFCC, SD presented 3 posters on the History, Structure and Recent Achievements of SD. A second SD-IFCC symposium took place following the IFCC Forum on “The Global Role of IFCC”, with WG-MID addressing the subject “Immunosuppressive Drug Monitoring”.

A number of Committees and other Working Groups participated in the Scientific Program.

Activities of Committees and Working Groups

Most of the detailed work of SD is carried out by 6 theme-oriented Committees (C), usually set up with other international organizations, and for specific tasks through 9 time-limited Working Groups (WG).

Committees

C-Nomenclature, Properties and Units. The IFCC/IUPAC coding system is available in English on the IFCC web-site. Future options for maintenance and harmonization with a related project based on US communication standard HL-7 (Logical Observations on Identification of Names and Codes, LOINC) are under consideration. A member of the Committee is representing IFCC at the Sub-Committee on Vocabulary in Metrology (VIM) and Guides to Expression of Uncertainty of Measurement in Metrology (GUMM) of the Joint Committee on Guidelines and Metrology (JCGM) of the International Organisation for Standardization (ISO).

C-Molecular Biology Techniques in Clinical Chemistry: In collaboration with IRMM and other European participants, the C has contributed to the preparation of Reference Materials, one representing a Homozygous Wild Type, and the other, the Homozygous Mutant Sequence of the Prothrombin Gene. Furthermore, the C is broadening its scope and is considering new implications : development of Reference Materials, participation in translational application, ethical aspects, development of partnership, etc. Strong support of IRMM in identifying new orientations of clinical significance is acknowledged.

C-Plasma Proteins. Successful work over several years has been published as a special issue of 21 papers in Clin Chem Lab Med (*CCLM 2001, 39,1017-1176*), details in Annual Report 2001. A new series of four publications is underway and relates to such aspects as overall improvement in variance following CRM 470, remaining differences of results between measurement systems, and overall reference interval study. New orientations of the Committee are being studied and a new strategic plan is underway.

C-Standardization of Markers of Cardiac Damage . This joint committee with AACC and DGLM is currently very active with projects on standardization of myoglobin and troponin I. Candidate reference materials have been selected, which are being evaluated by IRMM and NIST, respectively. Data analysis on the evaluation of the imprecision of troponin assays at the critical decision level is complete. All participating companies have agreed on the presentation of the results, and a paper is being prepared. A draft paper with a meta-analysis of the use of biomarkers for detecting success or failure of coronary reperfusion is circulating in the C. Possibilities of a project on Brain Natriuretic Peptide are discussed.

C-Standardisation of Coagulation Tests. This joint committee with the International Society of Thrombosis and Haemostasis (ISTH) published a position paper on standardisation of laboratory tests of haemostasis (*Jackson et al, Thromb. Haemost. 2002, 87, 165-169*). National societies will be approached for nominations of candidates for the vacancy.

C-SCT focus in 2002 has been the development of a working group on standardization of antithrombin (WG-SAT), as a model for other substances. The activity of the WG should begin with the preparation of an annotated review of antithrombin structure, properties and current assay methods.

A producer of recombinant human antithrombin has given a verbal commitment to provide the antithrombin for the reference material.

C- Reference Systems for Enzymes . A series of IFCC approved documents entitled "IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentration of Enzymes at 37°C. Parts 1-7" appeared in CCLM 2002 volume 40: 631-648 and 718-745.

A network of reference laboratories based on the ISO-CEN system has been established and will be published on the IFCC web-site.

Working Groups

WG-Selective Electrodes and Point of Care Testing. This group is moving in a new direction to include point of care testing and is a joint organizer of a meeting on critical care in September (Monterey, USA). Recent documents cover

measurement of ionized magnesium, ionized chloride and blood glucose.

WG-Reference Methods for Apolipoproteins. CDC serves as repository for the WHO-IFCC First International Reference Reagents for Apolipoproteins A-1 and B. The dwindling supply of SP3-07 will be replaced by a candidate reference material SP3-08, a serum pool prepared according to NCCLS 37-A guidelines. The data collected will be reviewed before going to IFCC and WHO for acceptance.

WG-Human Chorionic Gonadotrophin. This major project has now been completed successfully (see under WHO). Publication of papers dealing with preparation (first manuscript accepted by *Clinical Chemistry*), evaluation and application of the reference materials is expected. The so-called "excess materials" will be handled by IRMM. The ampouled products (by NIBSC) are on their way to IRMM.

WG-Standardization of Lp(a). The WG has sent its report to WHO, the work of the WG has been completed. The material will be on the agenda of the ECBS (February 2003) for acceptance as International Standard.

WG-Glycohaemoglobin (HbA1C). This is a key project in the IFCC global initiative on diabetes. The reference method for measurement of HbA1C in human blood has been published (*Jeppsson et al, CCLM 2002, 40, 78-89*). The reference material prepared by Roche is held at IRMM. The reference range is somewhat lower than previous decision targets, and a master equation will be developed to document the relation with the National Glycohemoglobin Standardization Program (NGSP,USA). Discussions with the European Association for Study of Diabetes (EASD), International Diabetes Federation (IDF) and American Diabetes Federation (ADF) are ongoing to determine the implications for clinical practice of the IFCC reference system. The network of approved laboratories for the IFCC system encompasses 12 laboratories in Europe, USA, Japan and additional candidates are being assessed.

WG-Nanotechnology. Comprehensive reviews exploring the current status of this emerging technology in laboratory medicine have been published (*Clin Chem.2002*).

WG-Standardization of Osteocalcin Measurements. In the NCCLS/IFCC “Guidelines for Bone Markers” this WG plays an active role. Document C48-P (Biochemical Markers of Bone Turnover) is recognized as a joint NCCLS /IFCC document along the lines of the memorandum of understanding.

WG-Monitoring Immunosuppressive Drugs. Progress was published in Therapeutic Drug Monitoring (*Holt et al, 2002, 24, 59-67*) and further information was presented at 18th ICC in Kyoto.

WG-Standardization of Plasma Homocysteine Measurement. The reference method selected is LC-MS-DS with IDMS and work on reference materials continues.

WG-Standardization of Thyroid Function Tests. IFCC is a participant in the EU funded project on “In vitro diagnostic procedures in diagnosis and monitoring thyroid disease”. The WG is developing a detailed proposal adjacent to the EU-related work.

Project Proposals.

Five project proposals have been received and dealt with during this year.

IFCC Publications, 2002

The following publications appeared in 2002 as a result of IFCC projects. A number of other papers are in progress and may be available through the IFCC Web Site.

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