



OUR MISSION IS TO BE THE LEADING ORGANIZATION IN THE FIELD OF CLINICAL CHEMISTRY AND LABORATORY MEDICINE WORLDWIDE

eNewsletter



IFCC NEWS, Sep - Oct 2006 issue By Ellis JACOBS, IFCC News Editor

EDITORIAL: IFCC SCIENTIFIC DIVISION - GOALS, ACTIVITIES AND FUTURE DIRECTIONS

The overall goal of the Scientific Division (SD) of the IFCC is to advance the science of Clinical Chemistry and its application to the practice of Clinical Laboratory Medicine. Within this context the SD seeks to identify research areas, technical innovations and diagnostic strategies of relevance to Clinical Chemistry and Laboratory Medicine and to assist the transfer of these to the profession. In addition, the SD aims to identify scientific and technological problems in current practice and provide solutions and guidelines on how to overcome them, and to establish standards for scientific and technical aspects of good laboratory practice. The SD also has a role in responding to the scientific and technical needs of IFCC Member Societies, IFCC Corporate Members and external agencies, and participates actively in the scientific programs of IFCC congresses and other scientific meetings. All these activities focus on better patient care and when necessary are carried out after close consultation with our clinical partners.

The SD initiates and manages projects with its own resources or through its Committees (C) and Working Groups (WG). Work is conducted in cooperation with other IFCC units and with relevant National and International Organisations. The SD ensures that each of its C/WGs functions under clear terms of reference together with an agreed schedule of activity. The SD assists in the development of project proposals, undertakes an annual review of progress and reviews and approves any documents that result from the work.

The SD Cs are theme orientated, and typically carry out a range of projects in an area of particular importance to the laboratory medicine community. WGs are task orientated, and focus on a single goal or closely related set of goals which can usually be achieved in a limited timescale. The SD currently coordinates the activities of eight Cs and twelve WGs (for more details, see IFCC web site: <http://www.ifcc.org/divisions/CPD/handbook/Handbook/>).

Proposals for new C/WGs often originate from within the SD, but they may also be proposed to the SD by any member of an IFCC affiliated organisation. The best initial approach is to discuss an idea with the SD Chair or one of the Members of the SD Executive, and then to prepare a formal proposal which will be considered for approval at an SD meeting.

There are a wide range of current C/WG activities, and it is only possible to review some of the most important issues here. The Committee on Nomenclature, Properties and Units (C-NPU)

maintains a generic database of properties and units which can be accessed via the IFCC homepage. This is a crucial and often underappreciated function that provides the basis for much of clinical laboratory science. The Committee on Molecular Diagnostics (C-MD) is developing proposals to establish a network of IFCC molecular diagnostics reference laboratories, and in addition will produce guidelines for the use of molecular diagnostics in clinical chemistry laboratories. C-MD is liaising with other international laboratory organisations and with regulatory authorities to promote standardisation in molecular diagnostic testing. The Committee on Plasma Proteins (C-PP) is currently carrying out work on the development of new reference materials for plasma protein analysis and in addition is investigating the possibility to establish common reference intervals for the most important plasma proteins. The C-PP is closely monitoring emerging technologies in the field of proteomics with the aim of producing guidance on standardisation and clinical utility of these methodologies at an appropriate stage. The Committee on Standardisation of Markers of Cardiac Damage (C-SMCD) (a joint initiative between the IFCC and the American Association for Clinical Chemistry) has a broad remit to produce analytical and clinical recommendations pertaining to standardisation and evaluation of available biomarkers. The C-SMCD has published a number of important recommendations in this area, and is currently working on the development of a Troponin I secondary reference material and on the standardisation of B-type natriuretic peptide assays. The Committee on Reference Systems of Enzymes (C-RSE) has developed and published reference measurement procedures for six enzyme activities which will enable global standardisation in this important field of Laboratory Medicine. C-RSE has created a network of reference laboratories which has demonstrated its competence to certify high-order reference materials, e.g. in joint IFCC-IRMM projects. The Committee on Reference Intervals and Decision Limits (C-RIDL) is a relatively new Committee with the important goal of promoting a standardised approach to the establishment of reference intervals, by the adoption of common reference intervals and decision limits established using methods traceable to validated reference systems. For this reason, the C-RIDL liaises closely with the Committee on Traceability in Laboratory Medicine (C-TLM). C-TLM supports all activities of different Cs and WGs of the SD with respect to the implementation of the concept of traceability to higher order reference systems. An IFCC External Quality Assessment Scheme (EQAS) has been created for the participation of laboratories to demonstrate their competence as reference measurement service providers. The Committee on Point of Care Testing (C-POCT) is contributing to the development of international standards for POCT, and is currently working on quality control of glucose testing in different health care settings.

While the tasks of all of the WGs are important, the work of three in particular will be highlighted here. The WG on Standardization of HbA1c (WG-HbA1c) has successfully developed a reference system for this measurand. It is intended to develop an implementation program to educate laboratory professionals and clinicians about the importance of this activity over the next year, to help establish international standardisation of HbA1c measurements for the benefit of patients with diabetes. The WG on Standardisation of Glomerular Filtration Rate Assessment (WG-GFRA) is developing recommendations for serum creatinine measurement and with regard to more accurate estimation of GFR. Estimation of GFR has been introduced as a routine test in a number of

countries, and lack of standardisation of creatinine assays has led to substantial uncertainties about the accuracy of such estimates. The WG-GFRA will bring forward proposals to establish a reference laboratory network for creatinine to assist manufacturers in validating traceability of their methods and EQAS organizers in targeting commutable control materials. The WG on Standardization of Thyroid Function Tests (WG-STFT) has embarked on an important program of work aiming to improve standardisation of total T₄, free T₄ and TSH assays. Substantial progress has been made on both total and free T₄, and discussions are beginning with clinical societies dealing with thyroid disease and the diagnostics industry about the benefits which can be achieved by assay standardisation.

As can be seen, the work of the SD stretches across the full remit of Clinical Chemistry, and seeks to address the issues of greatest importance to the profession, to our clinical colleagues and patients. Members of the SD are always happy to discuss ongoing or future projects with interested parties, and suggestions as to other areas which the SD might address in the future are welcome.

Prof Mauro Panteghini
Chair IFCC Scientific Division

LETTERS TO THE EDITOR:

Dear Dr. Jacobs,

The article “Green Light for Harmonization in Europe” (IFCC News Jan/Feb 2006) contains inaccuracies which I feel need to be corrected. There is no EU Directive entitled “Harmonisation for Specialists in Clinical Chemistry and Laboratory Medicine”. The EU Directive 2005 / 36 / EC of the European Parliament and the Council of 7th September 2005 and refers to medical doctors (including those working in Clinical Chemistry), Pharmacists and other health professionals but not Clinical Chemists or other Laboratory Medical Scientists. I and many others would welcome the extension of the EU Directive to these professions. The EU Directive establishes National Registrars of Professionals and not a European data base. Individuals may if they wish join EC 4 but it is misleading to state that the EU Directives “gives the possibility to every European laboratory professional to registrar in a unique European data base of clinical laboratory medicine in Europe”.

We in the UEMS Section of Medical Biopathology welcome the opportunity to work with our colleagues in clinical chemistry and laboratory scientists to provide the best possible service to the patients.

Yours sincerely,

Michael Madden
President

Union Européenne Des Médecins Spécialistes (UEMS) Section of Medical Biopathology

A SURVEY OF IFCC MEMBER ASSOCIATIONS ON IFCC MEMBERSHIP IN THE 21ST CENTURY:

Contributed by Vladimir Palicka, IFCC Vice President, Christopher Lam, Past IFCC EB Member, Daniel Mazziotta, IFCC EB Member

In 2004, the IFCC Executive Board started a discussion concerning worldwide developments in clinical chemistry and laboratory medicine, and, especially, about form(s) of IFCC membership, cooperation with other laboratory societies and about the possibility to attract them into the IFCC. To stimulate the input of IFCC country members and to make the discussion broader, a questionnaire was sent to all Presidents and National Representatives. The response rate was the highest in the IFCC history: nearly 70% of all national societies completed the questionnaire and added comments. This high response rate definitely confirmed the strong desire of national societies to influence the future and development of our discipline and gave us the opportunity to summarize the predominant opinions.

The questions were focused on the following important topics:

- membership and its composition
- interpretation of laboratory results and postgraduate education
- sincerity to the membership of other laboratory societies

Table 1: Main Questions Sent to National Representatives

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| <ol style="list-style-type: none">1. Your society's membership is open to: (MD, scientists, technologists)2. Give the percentage of scientists and physicians (as well as technicians) in your Society3. Who can be the Director or Head of Governmental Lab, Private Lab, University Lab, in your country?4. Are the above appointments of Laboratory Directors governed by law?5. Is your laboratory involved in the interpretation of test results?6. Who can legally be responsible for interpretation of laboratory results?7. For whom postgraduate education is provided for interpretation of laboratory test results?8. Which other societies of laboratory medicine (and clinical chemistry) are in your country?9. Would your society be willing to accept other societies of laboratory medicine joining IFCC to become an IFCC member society, and if yes, should they be given voting rights ?10. Would your society agree with the tentative proposal to grade the membership as (1) Full member (voting), (2) Associate Member (non-voting), and (3) Affiliate Member (non-voting) ? |
|---|

The 51 countries which responded to the questionnaire were: Argentina, Australia, Austria, Belgium, Brazil, Chile, China, Colombia, Cuba, Czech Republic, Ecuador, Egypt, Estonia, Finland,

France, Germany, Greece, Guatemala, Hong Kong, India, Indonesia, Ireland, Israel, Italy, Japan, Kenya, Korea, Latvia, Lithuania, Luxembourg, Malaysia, Mexico, Netherlands, Poland, Russia, Serbia-Montenegro, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Syria, Taiwan, Thailand, Turkey, UK, Uruguay, USA, Venezuela, and Vietnam. For statistical analysis, five groups (according to IFCC Regional Organizations) were made: FESCC for European countries, COLABIOCLI for Latin America countries, Asia-Pacific and Arab Federation for countries from those regions. The remaining countries (Canada, Kenya, Nigeria, South Africa, and USA) were grouped together as “Others.”

The highest response rate was from the Asia-Pacific Region, where we obtained 100 % response (12/12), followed by Europe and South America with a 71% response rate (25/35, 10/14 respectively). Very low response rates were obtained from the Arab Federation countries – 25% (2 out of 8) and the Others group (2 out of 5 countries). Despite the fact that the rate of response was not even, the overall high response rate gives us a good overview about the opinions of our member societies.

In most of the IFCC member societies membership is open to both MDs and doctoral scientists; ten societies accept technologists as full members. Altogether 92% of societies follow the IFCC principle of being open to MDs and scientists. Three societies are open to scientists only and one consists of technicians only. In 24 countries the majority of members represent scientists and in 7 countries physicians. Surprising was the majority of technicians in 11 national societies.

Table No. 2

Percentage of scientists, physicians and medical technologists in different countries

	range of % members	number of societies with > 50%
Scientists	0 – 100	24 countries
MDs	0 - 68	7 countries
Medical technologists	0 – 100	11 countries

In two thirds of the countries that responded to the survey the position of head of laboratory is regulated in some manner by law; in 17 countries official regulations do not exist. The position of the director of laboratory is open to physicians and scientists in most countries. Only MDs can become a laboratory director in ten countries (European mostly) at those laboratories that are part of medical schools and teaching hospitals. Six countries only allow scientists to hold this position. Surprising was that in seven countries technicians were also allowed to hold a laboratory director position, even in a University setting.

The interpretation of laboratory results is considered to be one of the most important tasks for laboratory specialists-professionals. Therefore it is not surprising that most countries answered

“yes” to the question “Is your laboratory involved in the interpretation of test results?”. The seven countries that answered “no” were among those in which scientists and/or technicians represent the majority of membership.

Table No. 3

Postgraduate education is provided for interpretation of laboratory results by laboratory staff for

physicians only	9 countries
scientists only	4 countries
both	31 countries
neither	5 countries

Taking into account the legality of laboratory result interpretation, one fifth of countries responding to the survey restrict legal interpretation to clinical physicians. Despite the situation in different countries, the interpretation of laboratory results has to be part of the postgraduate education of a laboratory specialist. We strongly believe, that the specialist in clinical chemistry and laboratory medicine must be well informed about the clinical impact of measured values. Clinical validity of laboratory results is a part of post-graduate curriculum for clinical chemists in 44 countries answering the questionnaire. It is sad to note that 5 countries do not educate laboratory specialists in the clinical validity and interpretation of the laboratory results.

The diversity of laboratory medicine is a worldwide phenomenon. In most countries there are more than five other laboratory medicine societies, and half of the responses confirm that in that country at least one other society active in the field of clinical chemistry exists. The cooperation between these societies does not appear to good. Only 30% of Societies are willing to allow the other society to join IFCC as a member. The highest acceptance of the concept of more-than-one member society from a country is in Asia-Pacific region (50%), whereas the idea was nearly totally refused in the COLABIOCLI region. Even in the countries that were accepting of the possibility of IFCC membership for more than one clinical chemistry society, full-membership for the other society was refused. It seems that the most of full-member societies are satisfied with the current situation.

It is very difficult to draw conclusions from the results. It was a questionnaire only and the questions and answers were simplified. Some comments are clear, of course:

- The highest response rate in the IFCC history supports the feeling of the IFCC EB that the subject of IFCC membership is a hot topic. Many countries are open to a discussion and are willing to find the best way for the future. The increasing interest of IFCC to expand its scope from the field of clinical chemistry into clinical chemistry AND laboratory medicine has created many questions about future.
- Most of the member societies fulfill the common feeling of IFCC of being open to both groups of university graduated specialists (physicians and scientists), but some exception exist

- Interpretation of lab results is of extreme importance and every graduated clinical chemist (scientists as well as physicians) must be well trained in this area. Therefore, IFCC and its divisions should strive for 100% involvement of National Societies in having postgraduate education concentrate on the interpretation of laboratory results.
- Most of the member societies do not accept opening IFCC membership to other societies in their country. Long and detailed discussions should precede any innovation in the IFCC rules concerning type(s) of membership. On the other hand, the existing diversity in laboratory medicine necessitates seeking better cooperation. Confining into a shell is not productive for the future and in fact threatens our discipline.
- Very important, especially for the IFCC EB (and for any interested clinical chemist), is the fact that half of countries added lot of comments to the questionnaire. This demonstrates the member societies strong interest in the future of the IFCC.

We hope that this article will stimulate further discussion for which IFCC eNews can facilitate and the IFCC General Conference can serve.

INTERNATIONAL TELECONFERENCE ALLOWED VIEWERS TO CHAT AND TO DISCUSS ABOUT QUALITY ISSUES

Submitted by By Rosa I Sierra-Amor, President AMBC.

Four countries, Mexico, Colombia, Argentina and Peru were linked by a teleconference last June 30th, 2006 to participate in the INTERNATIONAL CONFERENCE ON QUALITY sponsored by BIO RAD S.A., MEXICO. This is the first international conference having the auspices of IFCC in the Latin American region.



International Conference on Quality, Mexico City venue

BIO RAD and the Mexican Association of Clinical Biochemistry (AMBC, www.ambcmexico.org.mx), a full member of IFCC, hosted this event, with the auspices of several other professional organizations from Mexico: the Mexican Federation of Clinical Pathologists (FEMPAC) and the Mexican College of Clinical Chemists (CONAQUIC); from Bogota, Colombia, QUIK Ltda. and from Buenos Aires Argentina, Roche Argentina. There were eight sites in Mexico, and one Colombia, Peru and Argentina respectively. Therefore, a total of 617 professionals attended this event that was viewed and had chat discussions transmitted in real time via the Internet, with more than 30% (217 persons) of the attendees being virtual. The outcome of this international

effort, where industry and professional organizations provided a learning experience to worldwide professionals, was extremely successful. There were three main factors that contributed to the excellence of this event, the international experience of the speakers, IFCC auspices given to an international forum where several organizations were linked by an IFCC Full member society, and finally, the importance of using Internet based technology to teach laboratory medicine. “Quality” continuous to be a growing discussion topic worldwide, and it is very important to standardize and help laboratories achieving the requirements for laboratory accreditation. This is a common interest of professionals and diagnostic corporations. The topics presented were “ISO 15189:2003 Technical Requirements for the clinical laboratory” by Rosa I Sierra-Amor, President AMBC; “Method validation to fulfill the requirement” by Gabriel Migliarino, Roche Argentina; “How biological variability is important in daily quality” by Gianni Tamburini, Bio Rad Europe, and “Total error as tool to improve quality in the laboratory” by Aida Porras, Quality Consultant Quik Ltda Colombia. During 2006, BIO RAD S.A. MÉXICO and AMBC, in an effort to provide continuing education activities, launched a series of national conferences on quality that have been successfully presented around the country.



Rosa I Sierra-Amor, AMBC President, speaking on ISO 15189:2003 technical



Gianni Tamburini, BIO RAD Europe speaking on biological variability

PASSING OF PROFESSOR ELEMÉR ENDROCZI



The Hungarian National Medical Center Director General, Professor István Préda expresses his condolences on the death of Dr. Elemer Endroczi, Professor of Laboratory Medicine.

Elemer Endroczi, MD, DSc. Distinguished Emeritus Professor at the Haynal University of Health Sciences, Budapest, Hungary, passed away August 17, 2006, seventeen days after his 79th birthday.

Elemer Endroczi was internationally known for his work in neuroendocrinology (hormones, brain and behavior) and in laboratory medicine (quality control, quality assessment and assurance in clinical pathology). In addition he gave professional guidance to majority of the faculty and assisted more than 80 per cent of the MDs at the University to obtain proper scientific qualification. Sixteen of his pupils are currently full professors and are holding important positions in Hungary and abroad.

Born on July 31, 1927, in Pecs, Hungary, got his MD degree at the School of Medicine, University of Pecs. As one of the best of his class, Professor Kalman Lissak, member of the Hungarian Academy of Sciences, chairman of the Department of Physiology, in 1947 invited Elemer Endroczi to join the Department as a student. He continued to work there until 1970, as Associate Professor.

In 1962 and later in 1964 he worked at the Department of Anatomy and BRI, UCLA, Los Angeles, CA, USA, under the guidance of Dr. J. Hilliard and Professor Charles H. Sawyer. In 1970 he was invited by Professor Fortier at Laval University to lead one of this group in Quebec, Canada.

In 1971 he joined the Postgraduate Medical School, and established the Department of Clinical and Experimental Laboratory Medicine. Between 1974 and 1977, he was the Vice-Rector, and from 1977 until 1986 he was elected as Rector of the University. He served three terms, which is unprecedented in this country. He was holder of many awards and honors.

He was highly disciplined and had a tireless intellect. He was open-minded, inspiring, and honest, who improved the lives and career of his co-workers, colleagues and friends. He will be remembered as a modest man with outstanding achievements, as an amiable and faithful friend, a dedicated scientist and professor. He was truly a pioneer and leader of those times.

Elemer Endroczi is survived by his wife and two children.

IS CLINICAL BIOLOGY MORE IMPORTANT OR DIFFICULT THAN DENTISTRY?

Contributed by Xavier Fuentes-Arderiu, Member IFCC News Working Group

The European Communities of Clinical Chemistry (EC4) states that the training to be a specialist in clinical chemistry and laboratory medicine must involve at least 4 years dedicated post-graduate study, following a comprehensive and appropriate university education of at least 5 years in biochemistry, biology, chemistry, medicine or pharmacy (1).

Looking to another university health professions, in the case of dentistry the European Parliament and the Council of the European Union states that the basic training to be dental practitioner shall comprise a total of at least five years of full-time theoretical and practical study given in a university or under the supervision of a university (2).

The paragraph above suggest that clinical chemistry and laboratory medicine is more important (or difficult) than dentistry. I wonder who of us —the university professionals of clinical laboratory— really thinks that our work is more difficult or more important that the work of a dentist?

In my opinion, dentistry is a good example of a well-designed university degree within the health sciences and, regarding duration, might be taken as model for the training in clinical biology.

The above short digression is just a preamble to the following comment about the current EC4 recommendation on educational standards required to enter the professional field of clinical chemistry and laboratory medicine in the European Union.

In order to avoid misunderstandings, I will define the two disciplines corresponding to the two professional activities I am going to comment:

clinical biology: branch of health sciences that is concerned with the *in vitro* examination of biological properties of materials derived from the human body for the purpose of providing information for the diagnosis, prevention, treatment of disease in, or the assessment of the health of, human beings, by means of chemical or biological techniques (3)

NOTE 1: The term *clinical biology* is used in this text because it is the "stateless" English denomination given in the Council Directive 93/16/EEC (4) for this discipline and speciality.

NOTE 2: The literal translation to English of the official denomination of this speciality in the different European Union countries having it is (4): *clinical analyses* (Spain), *clinical biology* (Belgium and Luxembourg), *clinical pathology* (Italy and Portugal), *diagnostic laboratory* (Poland), *laboratory medicine* (Estonia and Lithuania), *medical biology* (Austria and France), and *medical laboratory diagnostics* (Hungary).

NOTE 3: Clinical biology is called *clinical laboratory science(s)* in many universities and scientific publications, especially in but not restricted to the United States of America (5).

biological chemistry: branch of clinical biology that is concerned with the *in vitro* examination of chemical and biochemical properties of materials derived from the human body for the purpose of providing information for the diagnosis, prevention, treatment of disease in, or the assessment of the health of human beings, by means of chemical or biological techniques

NOTE 1: The term *biological chemistry* is used in this text because it is the "stateless" English denomination given in the Council Directive 93/16/EEC (4) for this discipline and speciality, although the term *clinical chemistry* is worldwide used.

NOTE 2: The literal translation to English of the official denomination of the medical speciality in the different European Union countries having it is (4): *biological chemistry* (Luxembourg), *clinical chemistry* (Finland, Netherlands and Sweden), *chemical pathology* (Ireland, Malta and United Kingdom), *clinical biochemistry* (Czech Republic, Denmark, Italy, Slovakia and Spain), *medical biochemistry* (Slovenia) and *medical and chemical diagnostic laboratory* (Austria).

Also it is advisable to define the generic job I will write about:

professional [of clinical laboratory]: person working in a clinical laboratory and who have legal capacity for sign out clinical laboratory reports and who is eligible to act as director of a clinical laboratory

NOTE 1: "Professional" is the generic name used in the standard for accreditation ISO 15189:2003 (6). This term is applicable as much for the generalist (polyvalent) professionals dealing with any type of clinical laboratory examination as for the specialised ones (clinical biochemist, clinical microbiologist, etc.)

NOTE 2: Depending on the country, the generalist (polyvalent) professional has different names: *clinical analyst*, *clinical biologist*, *clinical laboratory scientist*, *clinical pathologist*, etc.

In Europe there are numerous postgraduate programs where specialised training in clinical biology is given to medicine, pharmacy or science graduates (7, 8) who wish to carry out their professional activities in clinical laboratories, and only through these postgraduate programs can an individual obtain a diploma that allows them to work in clinical laboratories with the legal capacity for signing out clinical laboratory reports and directing clinical laboratories. Only in Croatia, Serbia-Montenegro, Lithuania and Hungary are there academic programs dedicated to the undergraduate education and training in clinical chemistry, giving professionals the legal capacity for signing out clinical laboratory reports and directing clinical laboratories (8).

Bearing in mind the European reality, in this continent the concept professional of clinical laboratory—generalist (polyvalent) or specialist— might be defined as «biochemist, or biologist, or chemist, or pharmacist, or physician or veterinarian who has received several years of training beyond their university school in a hospital residency program». In some countries, at the end of the residency program, these professionals must demonstrated their knowledge and skills by passing rigorous examinations; but in other countries no examination is required by law. According to the study of Sanders *et al.* (8), in the European Union the mean duration of the pregraduate education is 5,6 years, and the mean duration of the postgraduate education in biological chemistry or in clinical biology is 5,1 years. The mean age to entry the profession is 29 years old.

Our job is socially relevant; I think there is no doubt about that. But, should the education entry level require around 10 years of education and training? This is a waste of time and money. During the pregraduate education the students, depending on the program, learn a lot of subjects (botany, anatomy or metallurgy, for example) that have no interest in the field of biological chemistry or clinical biology. I think all this is like killing mosquitoes with gunshots!

I think that the entry level for clinical biology should be a professional master degree, that should include 5 years at the university school, sharing during the last 2 years the university school with on-the-job training in a clinical laboratory. This model is compatible with the Bologna Declaration on the European space for higher education signed by 29 European states (9).

The polyvalent professional of clinical biology should be trained to work in a general clinical laboratory, where all type of *in vitro* examinations are done, and should be capacitated but not limited to:

- select and evaluate analytical systems,
- select and evaluate information systems,
- select and implement quality systems,
- implement and supervise a core laboratory,
- manage point-of-care examinations,
- be a general laboratory consultant,
- teach peers, technologist and technicians,
- be a clinical laboratory director/manager.

In Catalonia, a group of members of the Catalan Association for Clinical Laboratory Sciences has established by consensus the weighed competence components in an objective structured professional examination for polyvalent professionals of clinical biology (10):

- Clinical interpretation of analytical data.....11 %
- Preparation of diagnostic laboratory protocols.....6 %
- Clinical consultation.....7 %
- Procedures and instrumentation.....24 %
- Quality assurance and quality systems.....44 %
- Laboratory management.....6 %
- Legal and regulatory issues.....2 %

The EC4 and IFCC recommendations containing syllabus for biological chemistry postgraduate courses (1, 11) may be useful to prepare a syllabus to educate polyvalent professionals in clinical biology.

Regarding biological chemistry, at the beginning of the last decade, Johans Büttner raised the following question "Is clinical chemistry a professional field for physicians, for scientists or for both of them?" (12). I think that the appropriate answer to this question is that clinical chemistry (biological chemistry, according to reference 3) should be a professional field nor for physicians neither for pharmacists or scientists, but for people holding a professional master degree in clinical biology.

Regarding the entry level for biological chemistry specialist, I think that the university degree for entry into the profession should be a PhD in biological chemistry, awarded after 2 or more years of education at the university school and, simultaneously, on the job training in a university teaching hospital and the preparation of a doctoral thesis.

The specialist in biological chemistry should be trained for working in a biological chemistry laboratory in a large university teaching hospital. Professionals of biological chemistry should be capacitated but not limited to:

- perform procedures related to clinical genomics, clinical metabolomics, clinical proteomics, pharmacogenomics, etc.;
- evaluate and perform reference procedures;
- be a biochemical consultant;
- do research;
- manage research.

Thus, the syllabus for postgraduate education and training in biological chemistry should include, but not limited to, clinical genomics, clinical metabolomics, clinical proteomics, pharmacogenomics and research management.

With the current postgraduate model professionals have more education (in matters not relevant for clinical laboratory), but there is a waste of money in education and training; the entry age to the profession is very high; there are disputes and discrimination due to the university background; and there are too many associations related to clinical laboratory due to the university background.

With the proposed graduate model there is a saving of money in education and training; the entry age to the profession diminishes; discrimination due to the university background would disappear; the number of associations related to clinical laboratory would diminish with an increase in efficiency.

I do not doubt that the postgraduate system of education is good for medical and surgical specialities, but I am convinced that it is not the most appropriate system of education for the field of clinical biology and related disciplines. Thus, I conclude that clinical biology should be an independent university degree at the same academic level as biology, chemistry, dentistry, medicine or pharmacy, and biological chemistry (clinical biochemistry) should be a PhD degree awarded after the degree in clinical biology.

As clinical biology is simultaneously a branch of biology, chemistry, medicine and pharmacy, in order to avoid discriminations and other conflicts, it is better to classify it as a branch of health sciences rather than a branch of medicine.

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ALL INVITED TO ROMANIAN 5TH CONGRESS OF LABORATORY MEDICINE

Dear Friends and Colleagues,

It is a great pleasure to invite you to participate in the 5th Congress of Laboratory Medicine. This time the Congress will take in Brasov, Romania, November 2-4, 2006. This scientific event is one of the most important scientific meetings in the field of clinical laboratory. Our intention is to present a variety of topics in order to cover the whole area of interest, with the participation of prominent national and international colleagues to ensure the success and relevance of the congress. The upcoming Congress includes Lectures, Round Tables, Symposia, Workshops and Free Communications on many interesting subjects and on recent advances in the main areas of Laboratory Medicine to-day. Discussion of timely topics by renowned scientists assures that this congress will be informative and interesting. The organization of the post graduate course under the umbrella of the RSLM entitled “Evidence-Based Laboratory Medicine” is a good illustration to open new horizons for laboratory medicine and clinical practice. Therefore, this is a good opportunity to exchange knowledge and experience.

One young researcher will be selected to receive the Constantin Voiculescu award.

I hope that this Congress will be as successful as the four previous ones and will meet the expectations of all the attendees.

Looking forward to welcoming you in Brasov.

Cordially yours,

Manole Cojocaru MD, PhD
President of the Organising Committee

AACC SEEKS NEW EDITOR FOR CLINICAL CHEMISTRY

AACC is soliciting expressions of interest for the position of Editor of *Clinical Chemistry*. The current editor will retire from the journal at the conclusion of his term at the end of 2007. To ensure a smooth transition, AACC seeks to appoint a successor by the middle of next year.

The flagship publication of AACC, *Clinical Chemistry, International Journal of Molecular Diagnostics and Laboratory Medicine* is the leading journal in its field for total citations and impact factor. A highly competitive publication, the journal accepts about a third of the 1,500 manuscripts submitted each year while maintaining excellent turnaround on initial decision.

The editor is primarily responsible for managing the peer-review process and is solely responsible for the scientific content of the journal. The editor reports to the AACC Board of Directors.

Candidates should have a doctoral degree (PhD, MD, or equivalent) in a relevant discipline, clinical laboratory experience, and a record of published research as primary author. A current faculty appointment is preferred. Candidates should be willing to make a five-year commitment.

Interested applicants should submit an expression of interest and CV by September 30, 2006 to:

Carl Burtis, PhD

Search Committee Chair

AACC

1850 K St. NW, Suite 625

Washington, DC 20006

editorsearch@aacc.org

TURNING TO RFID FOR BETTER OUTCOMES IN HEALTHCARE!

Bernard GOUGET, SFBC FESCC representative, FESCC advisory board member (b.gouget@fhf.fr)

A Radio Frequency Identification (RFID) is a high tech system consisting of tiny microchips with radiotransmitters attached to plastic or paper tags. The chips, as small as one-third millimeter wide,

store data about an object or individual, e.g., inventory tracking data or a patient medical history, and transmit that information to an RFID reader. RFID systems make stored data instantly accessible to authorized users and can also track the movements and reports the locations of people and objects within a specific area. It is predicted that the RFID Healthcare Industry is a \$90 million industry, which will grow to a \$2.1 billion industry by 2016. It is intended to provide full trace ability at any time to prevent medical errors, including mislabeled pharmaceuticals or blood types. Use of RFID tags in laboratory samples is likely to form 4% of all applications in the healthcare industry.

RFID is already widely used in the business world spreading to cover almost every aspect of our daily lives. It can be used just about anywhere that a unique identification system is needed. Tags can be active or passive. Active tags have a battery with a life of several years, a range of tens of meters and a larger data capacity than passive tags. Passive tags use reader emissions to power a brief response, usually just an ID number. In healthcare, RFID tags may be applied to patients, health staff and to objects. The possibilities are as promising as they are varied, creating the potential to automate administration, reduce errors and improve security. The full potential of the technology is only just beginning to unfold. RFID applications are ideal for a multitude of healthcare settings; many companies delivered a variety of ready-to-use RFID solutions for laboratory automation and hospital data management. These RFID systems deliver the security, reliability, and flexibility to surpass even the most demanding RFID applications. In the past, various two-dimensional labeling techniques such as barcodes have been used in laboratory settings. With today's advancements in laboratory automation, 2D labeling technologies are simply no longer sophisticated enough. The use of RFID applications in such environments reduces the amount of re-testing and processing costs while minimizing errors that destroy or delay vital work. The advantages of RFID tags over other methods of identification such as barcodes is that you can write to them, read them automatically even if you can not see them and read many of them simultaneously. RFID data can be secured by encryption and by careful design of transmission protocols. RFID are proven tools to accurately match the right patient with the right procedure, medication, and materials.

While the potential for RFID to improve the quality and decrease the cost of healthcare is significant, implementing an RFID solution is a big challenge. All of the elements of an RFID infrastructure must be in place, not only the tags, but the network, the receivers, and the software to process the data. These components must work together efficiently, tightly and flawlessly. Today, making this initial investment is not so easy. But continuing advances in nanotechnology and robust wireless infrastructures as well as the increase in chip production reducing costs and new developments dedicated to health care industry may help to speed the adoption of RFID. Health providers can take advantage of the benefit of such economy of scale to implement affordable RFID solutions.

It possible to envision an environment in which RFID devices put on or implanted in patients could provide real time information on health indicators and vital signs and accurately monitor the status

of the patient. In the same way the outpatients could be monitored remotely, receiving nearly the same level of attention as those within the walls of the hospital.

RFID's potential is virtually unlimited amazingly configurable for expanded uses. However RFID is not the total solution to the complex challenges of healthcare cost, quality and equitable distribution. Some uses of the technology could raise issues of patient privacy and data security, which must carefully address. Nevertheless RFID is the tiny chip that is already making a very large difference in the increased efficiency and better patient care

THE IFCC PROFESSIONAL SCIENTIFIC EXCHANGE PROGRAM (PSEP) - -- MARBURG, GERMANY EXPERIENCE

Contributed by Andrea Tesija Kuna, Clinical Institute of Chemistry, Sestre milosrdnice University Hospital, Zagreb, Croatia

During the spring 2006, I was honored by the IFCC sponsored Professional Scientific Exchange Program for 1 month training at the Department of Clinical Chemistry and Molecular Diagnosis, Central Laboratory, University Hospital of Giessen and Marburg in Germany. The topic of my training was laboratory diagnosis of autoimmune diseases. As I work at Department of Immunology with expanding serodiagnosis of autoimmune diseases, it was of utmost importance for me to have an opportunity to visit a renowned laboratory engaged in this field and to be introduced in the structure of such a laboratory, the methods employed, work-up guidelines for patients suspect to suffer from an autoimmune disease as well as for the highly valuable exchange of experience. The education curriculum was supervised by Professor Harald Renz, head of Department, and Ileana Herzum, MD, his coworker.

During my visit I was trained in techniques that are employed in the serodiagnosis of autoimmune diseases: indirect immunofluorescence (IIF) on various substrates, enzyme-linked immunosorbent assay (ELISA) and immunoblot (IB) method. These methods are used in the identification of antinuclear antibodies (ANA), antineutrophil cytoplasmic antibodies (ANCA), antibodies to liver antigens, neuronal antigens and antibodies employed in laboratory work-up of celiac disease: antiendomysial antibodies (EMA) and antigliadin antibodies (AGA). Besides mastering technical skills I was also introduced into the use of algorithms for particular antibody classes and in correct interpretation of the finding obtained in the context of the referral diagnosis. Through this training I had an invaluable opportunity to learn from experts in the field, to discuss with them some technical problems characteristic of these methods as well as some serodiagnostic dilemmas.

Apart from the professional benefit I also had an opportunity to experience the hospitality and beauties of Marburg with its ancient core and one of the oldest universities in Europe.

According to my experience, the IFCC supported Professional Exchange Program is highly commendable as it facilitates the highly professional training in new methods and creates an appropriate atmosphere for useful professional contacts valuable in future exchange of experiences. At the end, I would like to express my gratitude to my supervisors during this training, Professor Harald Renz and Dr. Ileana Herzum, and also to the staff of the Department of Clinical Chemistry and Molecular Diagnosis, which were very helpful during my visit. I also appreciate the support from the past and current IFCC presidents, Prof. Mathias M. Müller and Prof. Jocelyn M. Hicks, and also from Prof. Elizabeta Topic, head of the Clinical Institute of Chemistry, Sestre milosrdnice University Hospital, Zagreb, Croatia.

AACC ANNOUNCES RECIPIENTS OF 2006 INTERNATIONAL TRAVEL GRANTS

Twenty one clinical laboratory scientists received international travel grants to attend the 2006 Annual Meeting and Clinical Laboratory Exposition in Chicago, IL. Established in 1992, the travel grant program is intended to help applicants without resources to attend the AACC Annual Meeting, enhance the recipient's career in clinical laboratory science in his/her home country, and broaden international participation in the meeting.

Congratulations to the winners.

Andrey Mamaev - Russia
Brijesh Kumar - Fiji
Dilshad Ahmad Khan - Pakistan
Dragana Begovic - Serbia & Montenegro
Eduardo Luis Freggiaro - Argentina
George F. van der Watt - South Africa
Habib Sadat Chaudhury - Bangladesh
Irina Kirpich - Russia
Juana Ortellado de Canese - Paraguay
Kayode Adebayo - Nigeria
Liudmila Ivanova - Russia
M. Muzaffar Mir - India
Rama Mittal - India
Shivananda Nayak - West Indies
Sorin Giju - Romania
Subir Kumar Das - India
Tatiyana Lobachevskaya - Russia
Victor Olaosebikan - Nigeria
Tomris Ozben - Turkey

THE APFCB LAUNCHES ITS SCHOLARSHIP PROGRAMME

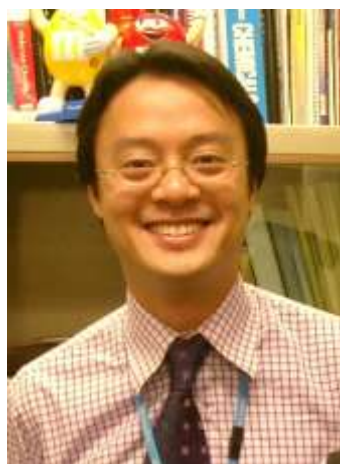
Submitted by Joseph Lopez, President, APFCB, IFCC EB Member

The APFCB's scholarship programme got off to a start when the first scholarship was awarded in July 2006. Funding for the programme has come mainly from the APFCB Philanthropic Fund which was established in 2005. The annual grant that was provided by the IFCC to regional federations in 2005 was used to seed the Fund and a similar grant received in 2006 was added to the original amount.

The scholarships are intended for providing opportunities to deserving clinical scientists in the region to undergo training and to present their work in conferences. The APFCB-Anon Scholarship, the first scholarship ever awarded by the APFCB, has been sponsored by a senior clinical biochemist from the Asia-Pacific region for 3 years. It is meant to enable a young scientist from the region, to attend each year, the prestigious Annual Scientific Meeting of the Australasian Association of Clinical Biochemists (AACB).

Besides the grants from the IFCC, the scholarship programme has received commitments from the APFCB's corporate members. With this support, we expect to award a number of travel awards to young colleagues from our region to present their work at the 11th Asian-Pacific Congress of Clinical Biochemistry to be held in Beijing in October next year, and training scholarships in the future.

The following is a brief profile of the recipient of the first APFCB-Anon Scholarship, Dr Ronald CC Wang of the Chinese University of Hong Kong (CUHK), Hong Kong:



Since obtaining his MBBS with honors in 1995, Ronald Wang has devoted his career to clinical research at the Prince of Wales Hospital, CUHK, and the Westmead Hospital, the University of Sydney, New South Wales in Australia. He was awarded a PhD degree in Surgical Science in 1998 and has so far published over 40 papers. Ronald has been the recipient of several international scholarships and awards for analytical chemistry, molecular genetics and genomic and proteomic bioinformatics for training at the following centres: the Institute for Biochemistry at Humboldt University zu Berlin, Germany (DAAD fellowship) in 1999; the Center for Information Biology & DDBJ, National Institute of Genetics, Japan (JSPS fellowship) in 2001; and the Microarray Bioinformatics Centre, University of Oxford, UK (JSPS fellowship) in 2002. For conference participation, he has also received the Roche Award of the Hong Kong Society of Clinical Chemistry in 2002, the APCCB Regional Service Award in 2004, and the AACC International Travel Grant to IFCC Congress Orlando in 2005. Recently, Dr Wang visited the Embryology Research Unit, Children's Medical Research Institute, NSW Australia (CUHK Summer Grant) for molecular embryology research; and Department of Biomedical Science,

Regeneration Medicine and Biofunction, Tottori University, Japan for stem cell research. At present, Ronald Wang teaches undergraduate and postgraduate students and undertakes basic science and clinical research at the Department of Obstetrics and Gynaecology of the CUHK.

RECENTLY PUBLISHED IFCC DOCUMENTS & RELATED PUBLICATIONS

The following documents have been published by IFCC Divisions/Committees/Working Groups:

Muller MM. IFCC and Clinica Chimica Acta-50 years of partnership. Clin Chim Acta 2006; 369:153-157

The following recently published papers relate to IFCC documents and Committee-Working Group activities:

Barlow-Stewartand K, Burnett L. Ethical Considerations in the use of DNA for the diagnosis of diseases. Clin Biochem Rev 2006; 27:53-61.

Jansen R, Schumann G, Baadenhuijsen H, Frank P, Franzini C, Kruse R, Kuypers A, Weykamp C, Panteghini M. Trueness verification and traceability assessment of results from commercial systems for measurement of six enzyme activities in serum. An international study in the EC4 framework of the Calibration 2000 project. Clin Chim Acta 2006; 368:160-167.

Savoca R, Jaworek B, Huber AR. New “plasma referenced” POCT glucose monitoring systems-are they suitable for glucose monitoring and diagnosis of diabetes? Clin Chim Acta 2006; in press.

LIGHT-HEARTED CLINICAL CHEMISTRY

No need to feel let down by colleagues

A clinical chemist felt a bit let down by his clinical colleagues. A professional friend contacted him, expressing concern and asking what he was going to do about it. The clinical chemist said: "It does not really matter. If the situation gets out of hand, I have a fall back position. I will provide them with wrong results!".

Recollected by Nils Tryding, Kristianstad, Sweden

UPCOMING IFCC RELATED MEETINGS IN 2006/07

21th International Symposium in Critical Care and Point of Care Testing, "Refining Point of Care Testing Strategies for Critical and Emergency Care." Quebec City, Canada, 28-30 Sept 2006, www.aacc.org/meetings/cpoc05

III "Biologie Prospective" Santorini Conference 2006, Santorini Island, Greece, 28 Sep – 2 Oct, 2006, biol.prospective-conf.u-nancy.fr

Annual Congress of the Society of Clinical Chemistry and Laboratory Medicine (DGKL) Mannheim, Germany, 1 – 4 Oct, 2006, www.ifcc.org/products/congresses/flyer_dgkl_englisch_rz.pdf

XVth Congress of Medical Biochemistry and Laboratory Medicine, 2nd FESCC Symposium for Balkan Region New Diagnostic Tools and Quality in Laboratory Medicine, Novi Sad, Serbia, 17 – 21 Oct 2006 http://images.r4g.us/members/1345/ftp/Preliminary_programme.pdf

2nd Symposium "Education & Training in Clinical Chemistry and Laboratory Medicine" Prague, Hotel Olympik, November 17-19, 2006 www.cbtravel.cz

EUROMEDLAB Amsterdam 2007, 17th IFCC - FESCC European Congress of Clinical Chemistry and Laboratory Medicine , RAI Congress Centre Amsterdam, Amsterdam, The Netherlands, 2-7 June 2007, www.ams2007.org/

11th Asian Pacific Congress of Clinical Biochemistry (APFCB), Beijing International Convention Center, Beijing, China 14-19 October 2007, www.chinamed.com.cn/11apccb