e-NewsLetter

Communications and Publications Division (CPD) of the IFCC
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International Federation of Clinical Chemistry and Laboratory Medicine

May - June
2014

e-NewsLetter

IFCC International Federation of Clinical Chemistry and Laboratory Medicine

In this issue

Shaping the Future of Laboratory Medicine: THE GREAT DEBATE

*by **Dr. Graham BEASTALL**, IFCC President for the IFCC Executive Board*
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This article is written in 20 numbered paragraphs–one for each of 20 PowerPoint slides that may be downloaded from the IFCC website (click here to access the presentation).

Dr. Graham BEASTALL
IFCC President

Introduction:

1. Laboratory medicine is evolving rapidly and is playing an ever more important role in modern healthcare. National and international structures to support the evolving laboratory medicine are not always able to accommodate this change. In May 2013 the IFCC Executive Board launched a one year consultation entitled 'Shaping the Future of Laboratory Medicine' which sought to stimulate discussion at national and international level. This article brings together the major points of discussion ahead of 'The Great Debate' at the IFCC Council meeting in Istanbul in June 2014.

Central Role of Laboratory Medicine:

2. It is generally accepted that a high percentage of all clinical decisions are influenced by laboratory medicine results at a small overall cost to the healthcare budget. This places great responsibility on laboratory medicine specialists to position themselves at the centre of the multidisciplinary team that is responsible for all aspects of healthcare from wellness screening through to monitoring the response to therapy.

Laboratory Medicine under Review:

3. Despite, or perhaps because of, its central role laboratory medicine services are currently under review in a large number of countries around the world. The exact terms of these reviews may differ but there three components to the review:
   - Improving quality across the spectrum from analytical quality, to quality assurance to quality management to laboratory accreditation. Different countries are on different rungs of the 'quality ladder' but the direction of travel is clear.
   - Improving clinical effectiveness by targeting the use of laboratory medicine to improve clinical outcomes. The timely presentation of results is one component as is a clinical interpretive and advisory service. Recognising the growing importance of patient-focussed medicine is another requirement.
   - Improving cost effectiveness by doing more at equal or higher quality for a lower total cost. Laboratory medicine has a unique record of achievement in this area but the trend will continue. The appropriate use of the laboratory and demonstrating value for money are growing facets of cost effectiveness

Mega-Trends in Global Healthcare:

4. Laboratory medicine needs to adapt to the changing shape and delivery of healthcare. Experts in the business community have highlighted 12 mega-trends in future healthcare:
   - An aging population with increasing chronic disease
   - Technological advance supporting personalised medicine
   - Innovation and increasing demand, especially in developing countries
   - Evidence-based medicine and the adoption of clinical practice guidelines

Article continued on pages: 4-6

- Environmental challenges – e.g. air, water, food, climate, congestion
- Global pandemics – e.g. pandemic influenza
- Monitoring healthy people to prevent disease and keep them well
- Greater devolution of aspects of healthcare to trained non-medical professionals
- Philanthropy to speed up advances in healthcare in developing countries
- Intelligent and informed patients influencing decisions on their healthcare
- Medical tourism to get the best quality or value healthcare in another country
- Rising costs and inadequate health budgets

Laboratory medicine contributes to virtually all of these mega-trends by facilitating improved clinical effectiveness and/or cost effectiveness.

Laboratory Medicine - Future Priorities:

5. It follows from the discussion to date that the future priorities for laboratory medicine must lie in three areas:
   - Continuous laboratory quality improvement
   - Improvement in clinical outcomes
   - Improvement in efficiency and cost effectiveness

   One way of looking at this is by adding value to a high quality service. To deliver these priorities will require laboratory medicine specialists to work outside as well as inside laboratories

Drivers for Change in Laboratory Medicine:

6. There are many drivers for change in laboratory medicine. It is convenient to divide these into five major categories to aid understanding:
   - Globalisation
   - Technological advance
   - Smarter working
   - Integrated diagnostics
   - Adding value to improve outcomes

   Each of these topics merits a detailed report. For the purposes of this review each will get a short paragraph.

7. Globalisation. We live in a world of instant communication. This provides an opportunity to share information on an international scale on a wide range of topics including:
   - Quality standards
   - Laboratory practice
   - Clinical applications

   Through sharing we can more rapidly meet the requirements of patients, clinicians and other healthcare interests

8. Technological Advance. We are in the middle of a technological revolution. Advances in technology enable us to achieve higher quality, more rapidly and on a smaller scale. Sometimes, but not always this is achieved at a lower cost. There are many examples of technological advance in laboratory medicine including:
   - Nanotechnology and point of care testing (POCT)
   - Automation including robotics, platforms and integrated systems
   - Mass spectrometry on the bench top across all of laboratory medicine
   - Bioinformatics to make sense of the huge volumes of data now available
   - Genomics informing greater understanding and driving personalised medicine
   - Proteomics and metabolomics facilitating new biomarkers

   Rapid technological advance has implications for knowledge and skills training

9. Smarter Working: The combination of an aging population, medical advances and rising workloads combine to put unsustainable pressure on healthcare budgets, whether they are funded by the state or the individual. The response of the

laboratory medicine profession has been admirable but it will need to continue. Improved efficiency, workload management and shared resources are just some examples of smarter working but these will impact on staffing levels and the skills mix amongst staff.

10. Integrated Diagnostics: Laboratory medicine, imaging and endoscopy all contribute diagnostic patient data. Through integration and incorporation into patient pathways this data can be converted into knowledge which can be used to bring about faster and better clinical outcomes. One consequence of integrated diagnostics is an erosion of the traditional boundaries within laboratory medicine and between the diagnostic specialties, with consequences for education, training and future job roles.

11. Adding Value to quality laboratory medicine services comprises a wide range of opportunities to go beyond a simple request-result service. A simple tool to explain the complexities of adding value is the mnemonic SCIENCE, which breaks down adding value into:

    - **S**tandardisation or harmonisation of methods and practices
    - **C**linical effectiveness improvement through greater involvement with users
    - **I**nnovation in methods, clinical settings and service delivery
    - **E**vidence-based medicine and clinical practice guideline implementation
    - **N**ovel applications exemplified by the shift from reactive to 'P4' medicine
    - **C**ost effectiveness and value for money
    - **E**ducation of others to better understand the role of laboratory medicine

    This is a professional responsibility. More detail may be found in *Clin Chem Lab Med* 2013; **51**: 221-28

'Divisions' in Laboratory Medicine:

12. We have an identity problem in laboratory medicine at national, regional and international level. We have many different names for our profession. We have different grades of staff working in the laboratory (e.g. medical doctors, scientists, technologists) not always harmoniously. We have several sub-specialties in laboratory medicine (e.g. clinical chemistry, haematology, microbiology, and genetics) with blurred boundaries and variable interpretation across the world. We deliver our services in a wide range of clinical settings (e.g. public, private, hospital, clinic, POCT) often in an unconnected way. This is not good for the patient and it is not good for the profession. Within the profession we are confused by these 'divisions' and it is hardly surprising that those outside do not really understand who we are and what we do.

13. The solution to this identity problem is to be more inclusive and to put aside professional issues in the interest of the patient, who must be the primary consideration. The laboratory medicine specialist should be a central part of the clinical team supported by an inclusive and integrated team of staff working in a co-ordinated group of laboratory sub-specialties, delivering 'joined up' laboratory medicine services. For most of us this destination is a long way off with many barriers in the way but the journey should start, driven by the quality standards and service specification needed by the patient.

'Shaping the Future of Laboratory Medicine':

14. Against this complex and dynamic background there are opportunities for laboratory medicine specialists. As part of its strategic plan the IFCC Executive Board launched a consultation document in May 2013, which challenges all involved in laboratory medicine to consider the implications of the future for the service they deliver. The consultation would last a year and culminate in a debate ('The Great Debate') at the IFCC Council meeting in June 2014.

15. The aims of the consultation are twofold:

    - To stimulate IFCC Members to discuss how best to support the changing face of laboratory medicine at local and national level
    - To consider how IFCC may position itself to enhance its global leadership role

I am aware that many IFCC Members have been having local discussions and I look forward to hearing their plans for the future.

Opportunities for IFCC:

16. A more inclusive and more broadly based IFCC can be brought about through expanded membership. This will enable IFCC to develop further its global leadership through:

    - Increased influence with the World Health Organisation
    - More global standardisation and harmonisation initiatives
    - More global practice standards and guidelines
    - A more effective global voice for laboratory medicine
    - Increased focus on added value and clinical outcomes
    - Increased credibility with global clinical organisations
    - An improved range and quality of service for IFCC Members
    - Increased collaboration for Full and Corporate Members

17. There is a barrier to IFCC being more inclusive. This is IFCC Statute 4.1.1, which effectively limits IFCC Full Membership to one society per country. This Statute dates back 60 years to a very different period for laboratory medicine when IFCC was dedicated solely to the developing field of Clinical Chemistry.

18. A November 2013 survey of IFCC Full Members societies revealed that:

    - 100% are active in clinical chemistry
    - >70% are active in immunology and haematology
    - >60% are active in microbiology, molecular pathology
    - >50% are active in genetics and virology
    - <50% are active in transfusion, transplantation, informatics
    - Only 2 IFCC Full Members are active in anatomic pathology

    From the results of this survey IFCC concludes:

    - Laboratory medicine and anatomic pathology are generally organised and delivered separately and so IFCC should not include anatomic pathology
    - There is considerable scope for IFCC to be more inclusive of all areas of laboratory medicine. This could be achieved through expanded membership

19. Accordingly, the IFCC Executive Board wishes to propose to the IFCC Council that it should consider:

    - Amending Statute 4.1.1 that restricts IFCC Full Membership to one society per country
    - Opening IFCC Membership to any properly constituted society that is active in laboratory medicine
    - Facilitating Full Membership from societies active in microbiology, genetics, transplantation, bioinformatics etc
    - Adopting a similar inclusive approach to Corporate Membership to expand the range of company interest in laboratory medicine

'The Great Debate':

20. The IFCC Council will debate the future of laboratory medicine from 13.45-15.45h on Sunday 22 June 2014 in the Congress Centre, Istanbul, Turkey. This is an open meeting that any interested person may attend and contribute. The key points in the debate will be:

    - Drivers for change in laboratory medicine
    - Divisions in laboratory medicine
    - 'Shaping the future of laboratory medicine'
    - Opportunities for IFCC

    No formal vote will be taken by Council but the debate will inform the proposals to be put to IFCC Members for voting at a later date.

WorldLab 2014 Istanbul

*by **Tomris Ozben***

Istanbul hosts the 22nd International Congress of Clinical Chemistry and Laboratory Medicine (IFCC WorldLab 2014), 22nd Congress of the Balkan Clinical Laboratory Medicine (BCLF) and 26th National Congress of the Turkish Biochemical Society (TBS 2014) between 22-26 June 2014.

Istanbul's new and state of the art congress center, Istanbul Congress Center (ICC) will be host venue for this Congress. It is located within the heart of the "Congress Valley" downtown and conveniently in walking distance to all major hotels as well as shopping centers, restaurants and night life district.

For the first time in the history of the WorldLab Congresses, five IFCC regional federations and the three most relevant associations in the field of laboratory medicine are going to organise their symposia during the WorldLab Congress in Istanbul. These are:World Association of Pathologists and Laboratory Medicine (WASPaLM), American Association of Clinical Chemistry (AACC), Latin America Confederation of Clinical Biochemistry (COLABIOCLI), European Federation of Laboratory Medicine (EFLM), Balkan Clinical Laboratory Federation (BCLF), African Federation of Clinical Chemistry (AFCC), Arab Federation of Clinical Biology (AFCB) and Asia Pacific Federation of Clinical Biochemistry and Laboratory Medicine (APFCB).

The high-quality innovative programme prepared by the International Scientific Committee and International Scientific Advisory Committee includes opening and plenary lectures, 35 symposia in 8 parallel halls, 2 educational, 3 satellite meetings, a workshop on LC-MS/MS, oral and poster presentations and industry

Article continued on next page

sponsored educational workshops and exhibition. The whole program has been designed to cover the most recent scientific and technological developments in the field of clinical chemistry and laboratory medicine reflecting the direction of Laboratory Medicine in the 21st century with a combination of presentations, symposia, discussions, workshops and exhibitions.

Opening lecture entitled "*Immunometabolism of obesity and diabetes*" will be delivered by Prof. Gokhan Hotamisligil. Plenary lectures will be delivered by Prof. Kamil Ugurbil (*Imaging brain function and connectivity with ultrahigh field magnetic resonance*), Prof. Göran K. Hansson (*Inflammation, immunity and atherosclerosis*), Prof. Mustafa Djamgoz (*Ion channels: form laboratory to clinic (and back)!*) and Prof. Dennis Lo (*Deciphering the plasma genome: applications to prenatal diagnosis and oncology*).

Symposia topics cover a wide spectrum of clinical chemistry and Laboratory Medicine. Point of care testing, practice guidelines, decision making, patient-focussed laboratory medicine, ISO15189, personalized medicine will be discussed in different sessions. Audiences will also have a chance to follow new techological developments in the field of hemostasiology, vascular markers, autoimmunity, neurodegenerative diseases and epigenetics. Finally, current laboratory applications will be presented for obesity, infectious diseases, bleeding and thrombosis, immunodeficiency, tumor markers, bone metabolism, haematologic diseases etc. "Data Generation and Ethical Issue in Laboratory Medicine" and "Peer Review and Ethics in Publications in the Electronic Age" are the sessions related to the important topic of ethics in laboratory medicine. Poster sessions will be an integral part of the congress programme encouraging congress participants to attend the poster sessions. The leaders of the diagnostic industry will participate in the largest IVD product exhibition during the WorldLab Congress.

XIIIth International Congress of Pediatric Laboratory Medicine will be organized prior to the IFCC WorldLab 2014 (June 20-22, 2014) as a Satellite Meeting. The scientific program covers a wide range of topics and includes sessions on genetically determined diseases in children, metabolic disorders, newborn screening, allergy testing, nutrition, endocrinology, pediatric reference intervals, and many other topics.

Prof. Dr. Nazmi Özer

President, Turkish Biochemical Society

President, IFCC Worldlab2014 Congress

Prof. Dr. Tomris Ozben

Chair, IFCC Congresses & Conferences Committee

IFCC POCT Satellite Meeting will be organized on 22 June, 2014. A workshop about "Scientific Writing" will be organized by Nader Rifai, the Editor-in-Chief of Clinical Chemistry and will be open to all participants.

IFCC WorldLab 2014 Congress brings outstanding professionals together from all over the world and we believe participants will enjoy the scientific and social programme and the beautiful city, Istanbul.

We are looking forward to meeting you in Istanbul in June 2014.

Letter for IFCC National Members

Dr. Peter Wilding

To: All IFCC National Representatives

Dear National Representative,

In 2013 the IFCC Board of Directors appointed a Historian for the Federation (Dr. Peter Wilding, Philadelphia, USA) who is charged with improving the archives of the Federation. We believe that an important component of the archives will be to document the history of member associations so that their role in our world-wide profession is documented.

You are invited to prepare a brief document that highlights the founding of your association, the key individuals (pioneers) that created it, and major achievements in your history.

Attached are two examples of documented collected by Dr. Wilding for articles in the Newsletter of the AACC History Division.

We sincerely hope that you will provide this information so that the IFCC Archives will record the important contributions of your association to the profession of clinical chemistry. You can send the document to the IFCC Historian c/o Silvia C-L, IFCC Office (colli-lanzi@ifcc.org), by July 18, 2014.

Copies of ALL the collected documents will be available via the IFCC Webpage.

As a further step, if in your National Society someone is interested in or responsible for the history of your society, you could perhaps invite him/her to join an informal network of international 'historians'. Please pass contact details to Silvia C-L as above.

Dr. Wilding, who will be present at the Istanbul Congress, invites you to visit the IFCC booth, and look at the first “History” posters that will be displayed there. Also, your visit would provide a nice possibility to learn more about IFCC and to add your contribution.

Yours sincerely

Graham Beastall

by **Peter Wilding**

PUBLISHED BY THE HISTORY DIVISION OF AACC: VOL. 19 NUMBER 1 FEBRUARY , 2011

The Australasian Association of Clinical Biochemists – Celebrating 50 Years of Serving Clinical Biochemistry in Australia

The Australasian Association of Clinical Biochemists (AACB) celebrates its 50th Anniversary in 2011. Currently the Association is a vibrant, active and progressive organization with about 1,000 members and 21 corporate members. It plays a very active role in ensuring members are kept informed on the latest developments in the profession through running education programs, scientific meetings, specialist seminars, scientific projects, circulating information on professional affairs and interacting with similar professional associations that represent other parts of our profession.

The formation of the AACB grew from the fact that in the 1950s, emerging hospital laboratories were increasingly being run by graduates of medicine or PhD's in chemistry. These clinical biochemists started to meet as a group during more general scientific meetings which led to the formation of a "Clinical Biochemistry Study Group". On May 26th, 1961 at a meeting held in Brisbane at which it was agreed that an Association should be formed. There was significant debate on the name and whether the new Association should also include New Zealand but it was thought New Zealand would want to go on their own and it would be easier for an Australian Association to apply for government seeding money.

After the initial meeting, development into a viable Association was rapid with **Dr JA Owen** as Chair and **Dr DH Curnow** as Secretary. There were 105 founding members and the first Council meeting was held in Sydney in 1962 (***see photo on next page***). As early as this first Council meeting, application was made to join the IFCC and so began a long and fruitful involvement in international activities which continues to this day. The other significant resolution of this first Council was that the Association should have an Annual Scientific Meeting (ASM) another activity that continues.

At the next Council meeting which was held in association with the first ASM, two important decisions that would shape help shape the Association into the future were made, namely, the Association should work toward offering structured membership levels by examination and that there should be an Association publication. The examinations have developed into the highly sought-after and prestigious MAACB and FAACB and the Association now has a number of publications including The Clinical Biochemist Reviews, The Clinical Biochemist Newsletter and also periodically produces monographs on specialized subjects.

After all that early debate, the New Zealand Association (NZACB) officially joined the AACB in 1993 and the Association became The Australasian Association of Clinical Biochemists. Since that time NZ members have made a significant contribution to the AACB in all areas.

1993 also saw the AACB hosting a very successful IFCC Congress in Melbourne in 1993. In 2004, the Association hosted the 10th Asian-Pacific Congress of Clinical Biochemistry in Perth.

Any history of the AACB cannot be considered without including the role the AACB has played in the development of quality in laboratories in Australia. Although the idea of establishing a QA program was part of the Foundation members' agenda, it was not until the 1970s largely through the efforts of **Des Geary** and **Lloyd Penberthy** that the RCPA-AACB Chemical Pathology QAP started. The history of the program and the cooperation between the RCPA and the AACB in its development can be found at http://www.rcpaqap.com.au/chempath/qaphistory.cfm. Many of the programs that are now part of the QAP have been developed by Working Parties initiated by AACB members and working under the auspices of the AACB.

Commencing in the early 80's, **Barbara Fry** provided secretarial support to **Ron Bowyer**, Honorary Federal Secretary and in the ensuing twenty years, this developed into a professional administration group located in Perth covering membership support, conference organization and publications. The Secretariat is now managed by the Chief Executive Officer, currently **Tony Prior,** who is also part of the AACB Executive.

Recently the decision has been made to relocate the office to Sydney over the next few years. The organizational structure has now developed to reflect the major activities of the Association which are professional affairs, education, publications and science.

As the Association celebrates its 50th year, it faces new challenges. Like in many other countries, Australian laboratories are increasingly having problems attracting suitable staff and how to manage our workforce has become an increasing focus for the Association. The foresight of the Founding Fathers in deciding the Association should offer Membership and Fellowships by examination has become integral in developing career paths for scientific laboratory staff. The other challenge is helping members to adapt and encompass new technologies and laboratory testing such as genetic testing and POCT which is being done through both the publications and specialised education seminars.

The success of the AACB over its first 50 years has been built on the members who have given their time and expertise voluntarily. As long as this continues, the Association will continue to flourish and remain at the leading edge of laboratory medicine in Australia.

Further information on the AACB and its activities can be found at its website at http://www.aacb.asn.au and a comprehensive history of the first 40 years of the AACB written by **Dr P Dennis** which was the source of some of this material in this article can be found at http://www.aacb.asn.au/web/About_the_AACB/History/

This article was written by:

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Council - August 1962: F.C. Neale (President), R.S. Parsons (Tas) R.J. Bartholemew (NSW), M Bick (Vic), G.A. Sarfaty (WA), W Roman (SA) D.H. Curnow (Secretary), J.E O'Hagan (Treasurer), M.J Thomas (Qld)

Latin American Regional Organization of Clinical Biochemistry

In December 1968, a group of biochemists from the Federation of Biochemistry of Buenos Aires, Argentina held the first Latin American Congress of Clinical Biochemistry. Participants in the first congress included Nobel Prize winners Bernardo A. Houssay, Luis F. Leloir, and Cesar Milstein, and the President of the International Federation of Clinical Chemistry and Laboratory Medicine (IFFC), Martin Rubin. During its opening ceremony, the recommendation was the integration of the national societies of clinical biochemistry from Latin America into one single organization.

On November 28, 1973, the Latin American Confederation of Clinical Biochemistry (COLABIOCLI) was officially established during the second Congress of Clinical Biochemistry held in Porto Alegre, Brazil (See photo)

- The mission of the confederation is to continuously improve the ethical, scientific, technical, and economic aspects of the clinical biochemistry profession.
- COLABIOCLI seeks to benefit individuals and nations through the development of laboratory sciences within Latin America, the organization and promotion of scientific meetings, the provision of external quality assurance programs, and the implementation of ISO requirements.

COLABIOCLI endorses the Latin American Congresses in every Latin American country and collaborates with both the IFCC and PAHO in order to fulfill its mission, vision, and objectives.

Porto Alegre, Brazil, II Latin American Congress of Clinical Biochemistry, from right to left: Dr Abol Correa (BR) Dr Enrique Chernoff (AR).

This regional organization includes the following countries: Argentina, Brazil, Bolivia, Colombia, Cuba, Chile, Ecuador, Honduras, El Salvador, Dominican Republic, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Uruguay and Venezuela. Also Spain (AEFA) is a member of COLABIOCLI, and in the past, Italy (SIBioC) also coordinated efforts with the region on several topics. COLABIOCLI´s Executive Committee (EC) is formed by a President, a Vice-President, a Secretary, a Treasurer and three Members-at-Large that are elected by all member societies during the council that takes place every two years. COLABIOCLI is a non-governmental organization that is affiliated to international organizations such as IFCC. It is also an advisor for laboratory services at the Pan American Health Organization (PAHO).

COLABIOCLI's main activities are to improve the level of the profession in all members' countries; stimulating research in the field of laboratory sciences, and encouraging the development of education in the universities and polytechnic institutes. The main tasks are to establish quality control programs, supervising the standardization of laboratory procedures, and supporting training and continuing education courses in clinical biochemistry in the region. A publication is distributed bi-monthly, this is the Acta Bioquimica Clinica Latinoamericana, published by the Federación Bioquímica de la Provincia de Buenos Aires from Argentina.

Colleagues from Argentina, Brasil, Chile, and other Societies from Latin America discussing the Status of COLABIOCLI during the, II Latin American Congress of Clinical Biochemistry held in Porto Alegre, Brazil in 1973.

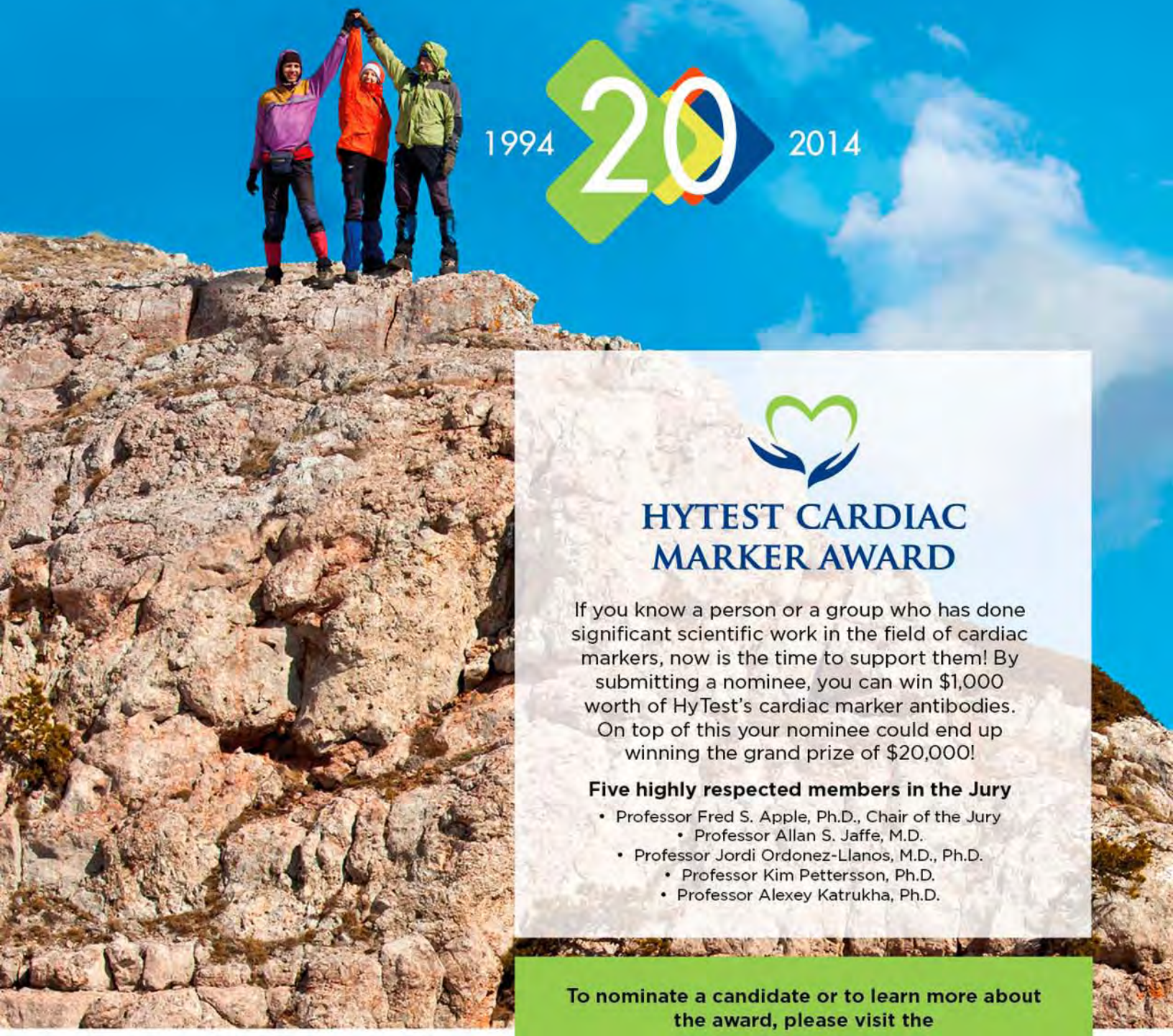
Nineteen congresses have been organized in the region, the next will be hosted by the Dominican Association of professionals in clinical laboratory, taking place in Punta Cana in November 24-26, 2011, and the 21st will take place in Peru.

Prepared by: ***Rosa I. SIERRA-AMOR, Member, WGLA AACC.***

References:

1. http://www.colabiocli.org/ 2011 10 05
2. http://www.ifcc.org/PDF/publications/handbook/2010/Chapter_05.pdf 2011 10 05

Together. Today and Tomorrow.



HYTEST CARDIAC MARKER AWARD

If you know a person or a group who has done significant scientific work in the field of cardiac markers, now is the time to support them! By submitting a nominee, you can win $1,000 worth of HyTest's cardiac marker antibodies. On top of this your nominee could end up winning the grand prize of $20,000!

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- Professor Allan S. Jaffe, M.D.
- Professor Jordi Ordonez-Llanos, M.D., Ph.D.
- Professor Kim Pettersson, Ph.D.
- Professor Alexey Katrukha, Ph.D.

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APFCB Office Bearers 2014-2016

*by **Joseph Lopez,***
Chair, APFCB Congresses and Conferences Committee, Member IFCC C-CC,
Immediate Past President APFCB, Past IFCC EB member

The following persons comprise the membership of the APFCB Executive Board for the period 1st January 2014 to 31st December 2016:

President:
Dr. Leslie Lai MACB (Malaysia)

Immediate Past President (*ex officio*):
Associate Professor Joseph Lopez, MACB

Vice-President:
A/Professor Dr Sunil Sethi, SACB (Singapore)

Secretary:
Dra. Endang Hoyaranda, IACC (Indonesia)

Treasurer:
Dr. Elizabeth Frank, ACBI (India)

Corporate Representative:
Mr. Martin Fuhrer, Siemens

The President, Vice-President, Secretary and Treasurer were re-elected unopposed at the APFCB's triennial meeting held in Bali on 26 October 2013, while the Corporate Representative was elected by the APFCB's Corporate Members in a separate exercise. The APFCB constitution allows an EB member to serve up to two 3-year terms in the same portfolio.

Subsequent to the Bali meeting, the Executive Board appointed the following persons as chairs of the APFCB's standing committees, based on nominations from the Council:

Scientific (C-Sci):
Professor Kiyoshi Ichihara, JICC (Japan)

Education and Laboratory Management (C-ELM):
Dr Tony Badrick, AACB (Australia)

Congresses and Conferences Committee (C-CC):
Associate Professor Joseph Lopez, MACB (Malaysia)

Communications (C-Comm):
Professor Praveen Sharma, ACBI (India)

Besides the chair, each standing committee consists of the APFCB President who serves an *ex officio* member, a secretary and 2 others appointed by the EB, from the nominations received from the Council. The APFCB's Affiliate Members were also invited to submit nominations for membership of the committees, though these nominees may not be appointed as chairs. All the nominees who were not appointed as committee members will be invited to become corresponding members of the committees. The committee members will serve for the same period as the EB.

European Federation of Clinical Chemistry and Laboratory Medicine
EFLM represents IFCC in Europe

BIASED LIPID-BASED RISK SCORES IN HYPERTRIGLYCERIDEMIA
An Important Study by the EAS-EFLM CARDIAC MARKER WG Collaborative Project Group

*by **Michel R. Langlois & Päivi Laitinen***

The field of dyslipidaemia is a fast emerging field of knowledge, and the treatment of dyslipidaemia is most important and well accepted, given the major public health impact of cardiovascular disease (CVD). The Guidelines for the management of dyslipidaemias published jointly by the European Atherosclerosis Society (EAS) and European Society of Cardiology (ESC) in 2011 have been well received and widely accepted at a national level, both within Europe and internationally.

The EAS/ESC guidelines recommend the SCORE (Systematic COronary Risk Evaluation) prediction model to estimate 10-year risk of CVD mortality. SCORE is developed to combine multiple traditional risk factors (gender, age, total cholesterol, systolic blood pressure and smoking status) into a single quantitative estimate of risk that can be used to target preventive interventions. The 2011 ESC/EAS guidelines have considered the additional impact of high-density lipoprotein cholesterol (HDL-C) on SCORE by using HDL- and gender-specific multipliers of risk. In patients with dyslipidaemia, prevention strategies with either lifestyle changes or lipid-lowering agents are primarily targetted by low-density lipoprotein cholesterol (LDL-C). The higher the predicted risk, the lower is the recommended LDL-C goal, <2.50 mmol/L (100 mg/dL) in high risk individuals (SCORE 5-9%) and <1.80 mmol/L (70 mg/dL) or a 50% reduction in LDL-C in very high risk individuals (SCORE ≥10%).

Despite international standardization programs for LDL-C and HDL-C measurements, results vary significantly with methods from different manufacturers. This raises an increasing concern about the accuracy of lipid-based risk stratification systems. The European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) and EAS have agreed to work together to raise awareness of the impact that discrepancies in lipid analyses can have on patient treatment, and subsequently to recommend standards for clinical analyses and laboratory testing related to the treatment of dyslipidaemia, to be implemented throughout Europe. The Collaborative Project Group between EAS and EFLM has been established by Alberico Catapano (EAS President), John Chapman (EAS Past-president), and Sverre Sandberg (previous EFLM Chair of Scientific Division, now EFLM President Elect) "…to produce laboratory testing recommendations and guidelines for management of dyslipidaemia and prevention of cardiovascular disease". The group is planning to achieve this aim through a range of initiatives, including publication of consensus position papers and recommendations, and organization of specialized courses.

A crucial study of the clinical impact of method bias in the cardiovascular risk classification based on HDL and LDL measurements has been recently published in Atherosclerosis 2014;233:83-90. Examining the results of the Dutch National External Quality Assessment of 200 clinical laboratories, representing all LDL-C and HDL-C reagent systems used in The Netherlands and most other countries, the group simulated the effects of analytical error and hypertriglyceridemia on HDL-adjusted SCORES and concordance of LDL-based treatment decisions. "True" lipid target values of normotriglyceridemic and hypertriglyceridemic serum pools were assigned with CDC Reference Methods in the Lipid Reference Laboratory in Rotterdam, an international member of the CDC Cholesterol Reference Method Laboratory Network (CRMLN).

The group observed marked deviations from the analytical target value (bias) with measurements in hypertriglyceridemic sera, up to 20% with some HDL-C methods. These biases far exceeded the U.S. National Cholesterol Education Program (NCEP) recommendations for LDL-C (≤4%) and HDL-C (≤5%). Application of HDL-multipliers of SCORE yielded different risk classifications depending on the HDL-C method, particularly in hypertriglyceridemic sera. Simulation demonstrated that on HDL-C retesting with another method, subjects may falsely change one risk category, such as from moderate risk (SCORE 1-5%) to high risk (SCORE ≥5%), or vice versa.

Article continued on next page

The errors in HDL-C measurements also affect calculated LDL-C using the Friedewald equation, leading to discordant treatment decisions even in normotriglyceridaemic sera. Direct LDL-C measurements did not improve the discrepancies. These discrepancies represent a clinically relevant issue, particularly at levels of SCORE around 5% because the choice of therapeutic intervention depends on whether the patients are below or above the 5% threshold of "high risk". In a patient at high risk, statin therapy is recommended if LDL-C is ≥2.50 mmol/L (100 mg/dL). Inappropriate treatment may occur if a true LDL-C concentration is within a desirable range, but the reported LDL-C value is in a high-risk range (leading to unnecessary drug treatment when lifestyle changes alone may be a more appropriate action), or if a true LDL-C concentration is in a high-risk range but the reported value is in a desirable range (leading to failure to treat a patient). Non-HDL-C, calculated as total cholesterol minus HDL-C, and apolipoprotein B measurements showed better concordance in risk stratification.

Manufacturers of lipid assays certify and standardize their assays by comparison with a CRMLN laboratory. The CRMLN laboratories employ LDL-C and HDL-C reference measurement procedures that are traceable to the CDC reference methods, i.e. beta-quantification for LDL-C and ultracentrifugation/heparin-Mn^{2+} precipitation/ Abell-Kendall cholesterol analysis for HDL-C. This process ensures that the calibrators and reagents sold by manufacturers produce test results that are traceable to the CDC reference methods. Although total cholesterol standardization is generally viewed as a success, concerns remain about the effectiveness of standardization programs for LDL-C and HDL-C. An important limitation of the current CDC standardization protocol is the lack of testing with atypical specimens from individuals with dyslipidemias to better evaluate "real world" assay performance in clinical practice.

Of particular concern for the isolation and quantification of LDL and HDL is the heterogeneity of the lipoprotein fractions. Both LDL and HDL comprise different subclasses of particles that vary in size, density, shape, lipid and apolipoprotein composition, making development of specific assays difficult. Direct "homogeneous" assays based on different principles may measure different subclasses of LDL or HDL that may or may not be equally quantified, depending on the assay procedure and reagents (non-specificity bias). In contrast to calibration bias, non-specificity bias cannot be overcome with better calibration; it is inevitable and varies per sample. Most discrepancies, with dramatic deviations from the reference measurement procedures, are observed in samples from patients with hypertriglyceridemia, mixed dyslipidemia, or other conditions with altered lipoprotein composition and remodelling such as diabetes and kidney disease. More efforts are needed to address specificity issues in the HDL-C and LDL-C manufacturers' certification programs offered by CDC and the CRMLN reference laboratories.

The EAS-EFLM Cardiac Marker WG concludes that HDL-C and LDL-C measurements are unreliable in hypertriglyceridemia and that these values should be used with caution in the SCORE risk classification and in related therapeutic approaches. As a patient's HDL-C and LDL-C concentrations depend on the method chosen by the laboratory where it is measured, therapeutic decision cutpoints may not be considered universally applicable. This should be taken into account when deciding to treat a patient with lipid-lowering drug therapy for life.

The study deserves particular attention since it addresses the clinical outcomes of laboratory activities and emphasizes competencies in the interpretation of laboratory tests and the role that Specialists in Laboratory Medicine may play in optimizing patient outcome. The clinical laboratories play a key role in the cardiovascular risk assessment and management of patients with dyslipidaemia. Clinicians that are involved in CVD prevention are highly dependent on accurate in-vitro diagnostic information. Incorrect diagnosis and mismanagement of treatment, which are based on laboratory measures, are both costly to society and harmful to the patient. The "post-analytical error" should not be underestimated, since even modest changes in risk prediction with a disease as common as CVD translates into thousands of people that may or may not be treated adequately.

Studies like this, looking at the clinical outcome of laboratory activity, are vital in promoting the visibility of the Laboratory Medicine profession in the medical world, helping people to understand how complicate and difficult can be the interpretation of laboratory tests and the invaluable role that our profession has in contributing to this activity.

Michel R. Langlois
EFLM WG-Guidelines & WG-Cardiac Markers
Department of Laboratory Medicine, AZ St-Jan Bruges & Ghent University, Belgium

Päivi Laitinen
Chair of EFLM WG-Cardiac Markers
HUSLAB Clinical Chemistry and Haematology Helsinki, Finland

European Federation of Clinical Chemistry and Laboratory Medicine
EFLM represents IFCC in Europe

EFLM REPORT FROM THE 2014 UK DIAGNOSTICS FORUM: "Changing the Landscape of Adoption of Diagnostics"

*by **Patrick MM Bossuyt***

On 18-19 March 2014, the 3rd Diagnostics Forum was held at the University of Oxford, UK, in the beautiful surroundings of Magdalen College. The meeting was sponsored by the UK Technology Strategy Board, the British In-Vitro Diagnostics Association, the UK National Institute for Health and Care Excellence, and the University of Oxford Nuffield Department of Primary Health Care's Centre for Monitoring and Diagnosis.

These Diagnostics Fora form a special series of conferences, bringing together over 100 attendees o fwhich 40% are from industry, 40% from academia and 20% from NICE, from the NHS, and other health care organizations. This mixed audience makes it a special and interesting event and the format of the conference allows both communities to mix and mingle.

The focus of this year's conference – for the first time in a two-day format – was on the generation of evidence to support the introduction of novel IVD, and on government support for the diagnostics industry in doing so. Overall, there were a few presentations and posters on the generation of evidence and the methods for doing so (from Jon Deeks and Elisabeth Adams, amongst others), but by and large the main focus of the meeting this year was on funding opportunities, in particular UK initiatives to stimulate innovation and collaboration in developing and evaluating diagnostics.

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Penny Wilson, from the Technology Strategy Board, one of the conference's main sponsors, introduced the Precision Medicine Catapult, announced in August 2013 and targetted at the development of diagnostics for stratified medicine. In stratified medicine, treatment decisions for subgroups are based on specific markers: marker positives would be given one treatment, marker negatives another form of treatment. Catapults are technology and innovation centres where UK businesses, scientists and engineers should work side by side on R&D, transforming ideas into new products and services to generate economic growth.

Several other organizations and programs were invited to introduce themselves these two days. The National Institute for Health Research (NIHR) aims at transforming research in the NHS, to increase the volume of applied health research for the benefits of patients and the public. NIHR has funded several initiatives, such as biomedical research centres & units, the Collaborations for Leadership in Applied Health Research and Care (CLAHRCs), the NHR clinical research network, and Academic Health Science Networks (AHSNs).

The NIHR has also – very recently – provided £4 million funding to four Diagnostic Evidence Co-operatives (DECs), for a four-year period, starting 1 September 2013. These DECs are organizations that are expected to act as catalysts for the generation of evidence for commercially-supplied IVDs. As such, they should foster collaboration between companies involved in the CE marking and marketing of IVDs and other parties.

The four DECs presented themselves at the meeting as well: Dr. John Simpson talked about the Newcastle DEC, Dr Michael Messenger presented the Leeds DEC, Dr. George Hanna introduced the London DEC at Imperial College, and Mathew Thompson spoke about the plans of the Oxford DEC.

More programs were presented at the meeting. Dr Mehdi Tavakoli introduced the audience to Health-KTN, which has a Stratified Medicine Innovation Platform. This platform seeks to build on the UK's strength within the global healthcare industries by working in partnership with 6 other organisations, who together will invest around £200m over 5 years in the area of stratified medicine. The investment will go into areas such as improved tumor profiling in cancer, novel biomarkers and the uptake of companion diagnostics in the NHS.

Other speakers presented a perspective from industry. David Horne (Alere) described the incredibly complicated healthcare landscape, where a citizen or patient can access the health care system in many different ways (such as the internet phoning 111, High St retailer, pharmacy, walk in clinic, GP, A&E, alternate practitioner, patient associations etc), and where IVD companies face an incredible amount of bodies and acronyms. The UK government, he felt, could simplify things and remove barriers. Government should also support SME and larger enterprises, using competitive tax rates, for example. Industry should change as well, by increasing transparency, generating better and more evidence, learning to partner, and by demonstrating value, rather than being fixated by price.

The very rich funding alphabet soup served at this conference (with DECs, CLAHRCs, KTNs, AHSNs, and more) figured also in the final words of Matthew Thompson, one of the organizers of the conference. There seem to be many initiatives, many opportunities for funding, but the landscape is quite fragmented, and it may be daunting for the healthcare professional to find the way through the myriad of acronyms, organizations and options.

The Diagnostics Forum has a website, where one can download reports of previous Diagnostic Fora and the presentations and the list of attendees of the 2014 event:

http://www.oxford.dec.nihr.ac.uk/diag-forum/2014-uk-diagnostic-forum

Patrick MM Bossuyt
EFLM WG-Test Evaluation
Professor of Clinical Epidemiology, University of Amsterdam, The Netherlands

European Federation of Clinical Chemistry and Laboratory Medicine
EFLM represents IFCC in Europe

14th EFLM Continuing Postgraduate Course in Clinical Chemistry and Laboratory Medicine - Dubrovnik, October 25-26, 2014

*by **Elizabeta Topic***

We are glad to inform you that the 14th EFLM Postgraduate Continuous Course in Clinical Chemistry and Laboratory Medicine "New Trends in Diagnosis and Management of Diabetes Mellitus: Diabetes Mellitus revisited 14 years after the first Dubrovnik Course", is now open for registration (www.dubrovnik-course.org/registration).

The Course will be held at the Inter-University Centre Dubrovnik on October 25-26, 2014 with the goal to bring a lot of new information documenting the progress in diagnosis and management of Diabetes Mellitus in the last 14 years. Most importantly, this event brings together Europe's specialist trained in Laboratory Medicine and physicians focussed on Diabetes Mellitus and its complications, one of the most frequent diseases worldwide. It will be an opportunity not only, to listen to the renowned expert in the field, but also for active participation of attendees with poster presentation. These results presented as posters, will reflect attendees contribution in the care of Diabetes Mellitus across Europe.

We would like to draw your attention to the date of the registration fees: 150 Eur before, and 250 Eur after August 1, 2014. More information can be found on the web (www.dubrovnik-course.org).

For the poster session, the participants are invited to submit their posters before August 1, 2014. Several interesting posters will be chosen for short oral presentation. The best poster chosen by Scientific and Organising Committee will be awarded.

EFLM will announce bursaries for young participants (<35 year). Applications should be submitted by July 1, 2014 electronically. All applicants will be notified about the results by e-mail, latest by the end of July 2014. Further detailed information will follow in May.

The course will be accredited by National Society rules.

We would like to draw your attention to the following dates:

- **Abstract submission - June 15, 2014**
- **Bursary application deadline – July 15, 2014**
- **Early registration fee – August 1, 2014**

We look forward to welcoming you in Dubrovnik where you will have the opportunity for an interactive discussion during the course as well as during social events

Elizabeta Topic
EFLM Education and Training Committee
Faculty of Pharmacy and Biochemistry University of Zagreb, Croatia

Preliminary Programme & Images from Dubrovnik on pages 21-22

Preliminary Programme

Saturday, October 25, morning

Introduction

Part I : Epidemiology, prevalence, the major complications of DM

- The diabetes epidemic – prevalence and classification of
- Complication of diabetes - strategies for reducing the risk of long term complications
- The role of diabetes registries to monitor the treatment and complications of diabetes
- Poster presentation

Part II: The role of testing in the diagnosing and management of DM

- Guidelines and recommendations for testing in diagnosis of DM: The role of HBA1c
- HbA1c analysing – challenges for the laboratory – internal and external QC
- Post-analytical factors – how should HbA1c results be communicated to clinicians
- Poster presentations

Saturday, October 25, afternoon

Part III: Do we have markers for early diagnosis of diabetes?

- Early recognition of gestational diabetes (Introduction of new guidelines and practice) - how should the routines be?
- How to diagnose the pre-diabetes
- Diabetes in children - Impact of obesity on development of diabetes
- Poster presentations

Sunday, October 26, morning

Part IV: Can good management prevent the diabetic complication

- POC testing instruments for diagnosing and monitoring diabetes in clinical settings
- The impact of preanalytic factors of glucose measurement
- Self measurement of glucose – how useful is it and how can it be done
- Poster presentations
- Break, poster walk, exhibition

Part V: Can good management prevent the diabetic complication

- Obesity and Diabetes. The role of Laboratory Medicine
- Pros and Cons of Incretin therapy in Type 2 diabetes
- The practical issues in patient management – pharmacogenetics

Poster Award

Dubrovnik Course 2014

Organising Secretariat
CSMBLM, Boskovićeva 16
10000 Zagreb, Croatia
Phone/fax +385 1 428 288
Mail: info@dubrovnik-course.org

Dubrovnik Harbour

Dubrovnik: Minceta Tower at night

20th Anniversary of the LABKVALITA

*by **Jan Balla,** National Representative of the Slovak Society of Clinical Biochemistry, Labkvalita founder & long-term co-ordinator*

In September 1993 some fifty people met in Bardejov Spa to found a tradition of an event with international participation **"LABKVALITA"**. Anniversaries are a time for celebration and recognition, but they are also a time for reflection. Since its foundation the initiative has been taken to organize the biennial congress for clinical laboratory scientists seeking quality in medical laboratories. For twenty years , thanks to sustainable sponsorship supported by diagnostic companies, the Slovak Society of Clinical Biochemistry has been able to organize this Conference for medical laboratory specialists (biochemists, microbiologists, haematologists, immunologists, pathologists), laboratory directors, quality managers, technologists, clinical laboratory scientists, medical technologists, medical laboratory technicians, medical laboratory assistants, hospital administrators, referring physicians and allied professionals from diagnostics industry, and those involved in laboratory accreditation and regulatory issues and policy makers. Close to 2,000 participants have participated in the Conference from 1993 to 2014.

Labkvalita is a meeting of professionals especially from Slovakia, but also from neighbouring countries of Eastern and Central Europe. The short period of the Slovak Republic membership in the European Union has proven that mainly those, who are capable, prepared and active, are successful in the Community of European countries, regardless of whether they are small or large. Slovakians wish and therefore should be like that. The strengthening of the international cooperation in the field is inevitable, even more among the European Union member states.
Labkvalita became the challenge of motivation, our passion for work and service, the alignment of people and resources; developing relationships and understanding the forces that drive clinical laboratories. During the past 20 years, a series of choices, several which put the Labkvalita event at risk, have finally resulted in a success. A couple of volunteers, who have held events on different locations have been also able to give something back to the Slovak Society of Clinical Biochemistry. The activities of the Slovak colleagues have been based on a great amount of enthusiasm and on good reading of the situation, tradition, experience and the ability to react quickly and accurately in time and space. I cordially wish to say THANKS to each of them for being part of the "Labkvalita" story which is only beginning to unfold and may continue for the next 20 years.

The **LABKVALITA** vision is to set the educational direction and standard in a variety of settings for clinical laboratory. The Conference educates on behalf of laboratory professionals and plays a leadership role in enhancing the quality issues in medical laboratories.

The main objective of the conference is to systematically review the core knowledge that must be mastered by medical laboratory providing affordable, accessible experiences resonate with participants.

Beyond learning and sharing high-quality educational programs and strategies the Conference drew lecturers, educators including reknowned scientists and distinguished speakers from all over the world: James O. Westgard, Callum G. Fraser, Marek Dominizcak, Christopher P. Price, Per-Hyltoft Petersen, Michael Mayer, David Bullock, Linda Thienpont, Jean-Claude Libeer, Dietmar Stöckl, Ian Wilkinson, Harald Schlebusch, Walter Hübl, Jerzy Naskalski, Andrea-Rita Horvath, Vladimir Palicka, Alexander Lapin, Raija Pikkarrainen, Mauri Keinanen, Risto Heikinen, Torben Orntoft, Adam Uldall, Ulf Ornemark, Alexey Moshkin, Jerzy Rogulski, Mieczyslaw Wozniak, Josef Kratochvila, Bedrich Friedecky, Tomas Zima and many others.

Article continued on next page

The scientific programme of the Conference is developing towards being highly interactive with actual issues in the field. The **LABKVALITA** hosts links between quality assurance, quality management, quality control and quality improvement affecting the quality of laboratory practice on patient outcome.

The conference goals are focussed on the variety of legal issues that can arise in laboratory medicine. These range from the recommendations on laboratory cost containment and practices to the improvement of cost-effectiveness to monitor the total testing process. There are still unresolved topics: what quality is acceptable today?, how much conformity to goals is needed?, what is medically relevant quality control?; do the current QC techniques estimate an error in patient results?, what do we need more: strong theory and beautiful ideas or practical guidelines?, how to implement up to date analytical techniques to reduce laboratory errors?, is quality built by the manufacturers or by the medical laboratory?, is modern instrumentation so medically reliable and foolproof that we can stop worrying about analytical QC?

The ongoing Labkvalita contributions of top lecturers from the European Federation of Clinical Chemistry and Laboratory Medicine and The European Association for Predictive, Preventive and Personalised Medicine will enrich the programme through enhancing the diversity of perspectives and content presented.

Photo Collage

Pictured in the above row - *From left to right*: Katarina Lepejova, *SSCB Secretary;* Marko Kapalla, current *Labkvalita Co-ordinator;* Jan Balla, *Labkvalita Founder & Former Co-ordinator.*

Pictured in the below row- *From left to right*: Vladimir Heriban, *Former Labkvalita Co-organizer;* Maria Kacaniova, *Major Labkvalita Organizer.*

News from Uruguay

*by **Ana Piana***

The IX Uruguayan Congress of Clinical Biochemistry "The Clinical Laboratory. Research, Science and Technology in the service of health and wellness" took place on 7, 8 and 9TH of November, 2013 at Telecommunications Tower, (Guatemala 1075), Montevideo, Uruguay.

The following IFCC visiting lecturers attended the meeting:
Dr. Graham Beastall (UK) IFCC President
Dr. Mario Plebani (Italy)
Dr. Edward Chan (USA)

- The President of the Latin American Confederation of Clinical Biochemistry (COLABIOCLI), Dr Carlos Navarro (Argentina) and Dr. Roberto García (President of Argentinean Biochemistry Foundation) also attended the event, and other distinguished colleagues from USA, Paraguay, Argentina, and Brazil as well.
- There were 400 participants in total.
- Sixteen symposia, seven plenary lectures, and two pre- congress courses were conducted.
- During the congress, an agreement between Latin American Confederation of Clinical Biochemistry (COLABIOCLI) and IFCC was signed.
- Committee for Standardization and Quality Control (CECC), the Uruguayan EQAS, inaugurated its new headquarters on the 9th of May at the Faculty of Chemistry. At the same event were honoured its founders: Prof. Dr. Raúl Somma (1979) and Q F. Olga Borrat (1985).

Activities scheduled for year 2014 by Uruguayan Association of Biochemistry (ABU):

1 - Course on biological fluids.

2 - Course on superficial mycoses.
Both activities will be performed in collaboration with Wiener Foundation.

Regional Activities of Uruguayan Association of Biochemistry (ABU):

1 - Uruguay was elected as the place to hold the COLABIOCLI congress in 2017.

2 - Uruguayan Association of Biochemistry (ABU) was elected financial headquarters of COLABIOCLI.

3 - ABU and Argentinean Association of Biochemistry (ABA) signed an agreement, for collaboration, assistance and cooperation in academic, scientific and cultural areas.

From left to right: Dr. Daniel Mazziotta, (Argentina), Dra. Ana Lena, (President of the Uruguayan Congress), Dr. Carlos Navarro, (President of COLABIOCLI), Dr. Graham Beastall, (President of IFCC), Stella Raymondo (IFCC National Representative of Uruguay).

IFCC Professional Scientific Exchange Programme (PSEP)
My Experience at The Biomedical Diagnostic Institute

*by **Myriam Oliveira Rodriguez,** Hospital San Agustín-Avilés (Asturias)-Spain*

First of all, I would like to express my sincere gratitude to the IFCC Professional Scientific Exchange Programme (PSEP) for giving me the opportunity to work under the supervision of Professor Richard O'Kennedy in the Biomedical Diagnostic Institute (BDI).

At the entrance of the Biomedical Diagnostic Institute (BDI)

Point of Care Testing (POCT) is defined as medical diagnostic testing performed outside the clinical laboratory in close proximity to where the patient is receiving care. POC tests are important in settings where timing is critical (e.g., emergency rooms), where laboratory facilities are nonexistent or resources are low (e.g., in developing countries).

The main purpose of my visit was focused on the development of point-of-care (POC) devices for tumor biomarkers.

These devices help deliver appropriate and prompt treatments and improve clinical outcomes.

The BDI is a multidisciplinary research institute focused on the development of biomedical diagnostic devices and has collaborative programs with Dublin City University,

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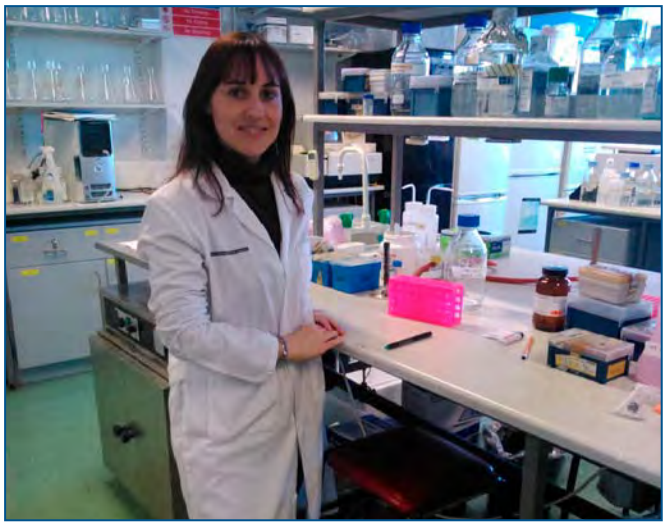
in addition to other institutions. Its focus areas are principally clinical diagnostics in oncology, cardiovascular and infectious diseases. Typically, these devices involve the capture, detection and analysis of cells or biomolecules.



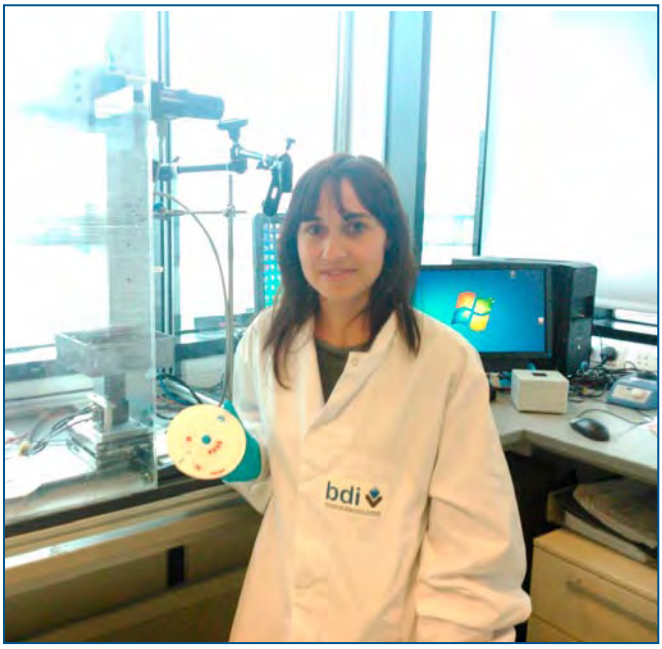
In the Applied Biochemistry Research Lab.
Dublin City University (DCU)

My 3-month stay in Dublin was divided in two parts. In the beginning I worked in the Applied Biochemistry Research Group, internationally recognized for its expertise in immunoassays and in the generation of monoclonal, polyclonal and recombinant antibodies. One of the main objectives of this Group is the generation of antibodies against new biomarkers for cancer diagnosis. My project in this laboratory was the purification and characterization of antibodies against prostate specific membrane antigen (PSMA), a transmembrane protein expressed in all types of prostatic tissues and whose concentration is associated with the tumor grade. Some of the techniques that I used were affinity chromatography, protein expression (SDS and Western Blot), enzyme linked immunoassays (ELISA) and surface plasmon resonance.

I spent the second part of my stay in the Microfluidics Group. The BDI Microfluidics team develops novel micro and nanofluidic technologies for biomedical diagnostics and systems biology.
In the last years BDI have had projects in the development of devices for POC diagnostic for colorectal cancer, lab-on-a-disc platform that facilitates cost-efficient and automated counts of CD4+ cells in blood, platforms for a standard liver assay panel from whole blood consisting of six enzymatic assays fully integrated on a disc, extraction of RNA from blood, etc.

My project in the Microfluidics Group was to design a centrifugal microfluidic lab-on-a-disc system to develop an automated ELISA to detect prostate cancer.

Microfluidic platforms enable the miniaturization, integration and automation of biochemical assays. In the centrifugal platform, all the processes are controlled by a frequency protocol. With the outstanding help and supervision of Dr. Mishra, Dr. Kinahan and Dr. Nwainkire my project yielded encouraging results. The advantages of this system over the conventional ELISA in a plate are the fully automation, lower time and volume requirements and in the ability to use whole blood.



Lab on a disc platform. Microfluidics group. BDI.

I wish to express my gratitude to Dr. Francisco Alvarez (President of the Spanish Society of Clinical Biochemistry) for supporting my request for this stay, Dr. Rafael Venta (Head of Department of Clinical Biochemistry at San Agustín Hospital, Avilés) for always encouraging me in my initiatives, Professor Richard O'Kennedy for letting me be part of his group and see the progress in the design of POC devices and also the PSEP-Committee for making it possible.

Welcome to a New IFCC Corporate member: GUANGZHOU WONDFO BIOTECH CO. LTD

Guangzhou Wondfo Biotech Co. Ltd. was founded in 1992 as a research based company in the campus of South China University in Guangzhou, Guangdong Province, China. In 2010, Wondfo moved to a new site, located at Scientific City, Luogang Distrcit, Guangzhou. The Operation quickly grew beyond research purpose towards manufacturing of quality medical products and biochemical reagents, in particular the point-of-care testing kits and devices. Wondfo has obtained ISO 13485:2003 certificate. Its products have been cleared by the US FDA, Chinese FDA and received CE Mark. Website: www.wondfo.com.cn

News from the IFCC website

eJIFCC Vol 25 N° 1

A focus on Men's Health is the main "unconventional" subject of the latest issue of the eJIFCC. Thanks to Maria Pasic, to Vathany Kulasingam and to Eleftherios P. Diamandis who, as guest editors, greatly contributed to the current volume. A special emphasis on prostate cancer and other health issues exclusive to men such as androgen replacement therapy and male infertility have been included, as well one chapter on bladder cancer which occurs in both men and women. An article on estimation of alert and change limits of haematological quantities complete the issue.

Click here to access to the Volume

El Microscopio

For Spanish speakers El Microscopio presents the International Edition of El Microscopio, March 2014, exclusively focused on the 2014 IFCC WorldLab Congress that will be held in Istanbul (TR). Listen to this special edition of the Web Radio programme for the last updates on the Congress and much more! Click below to access the programme:
El Microscopio- Radio Istanbul

Thinking of Introducing PoCT – Things to Consider

Point of Care Testing (PoCT) is defined as diagnostic testing at or near the site of patient care. The IFCC Task Force prepared a useful publication for clinical chemists: "Thinking of Introducing PoCT - Things to Consider". The publication reviews the main areas for PoCT: organization and management, selection of a suitable analyser, staff training and competency, role of the PoCT Coordinator, traceability of measurement, quality testing recommendations, PoCT QC and EQA programmes, pre-analytical error, sample collection, connectivity, and safety and waste disposal. A useful resources section complete the document. Visit the POCT Resources page to download the guide.

IFCC 's Calendar of Congresses, Conferences & Events

Calendar of IFCC Congresses/Conferences and Regional Federations' Congresses

2014 - Jun 20-22	XIII International Congress of Pediatric Laboratory Medicine	Istanbul, TR
2014 - Jun 22	IFCC TF-POCT Satellite Meeting Istanbul 2014 "PoCT Enabling Patient-Centred Care"	Istanbul, TR
2014 - Jun 22	IFCC Satellite Meeting Istanbul 2014 "LC-MS/MS in Clinical Laboratories"	Istanbul, TR
2014 - Jun 22-26	WorldLab 2014 - 22nd International Congress of Clinical Chemistry and Laboratory Medicine	Istanbul, TR
2014 - Oct 24-25	IFCC Specialized Conference "Biomarkers in Neuropsychiatric Disorders"	Toronto, CA
2015 - Apr 28-30	4th Congress of the African Federation of Clinical Chemistry (AFCC)	Victoria Falls, ZW
2015 - Jun 21-25	EuroMedLab 2015 - 21th-IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine	Paris, FR
2015 - Jun 26	EuroMedLab 2015 Satellite Meeting 'HbA1c and management of Diabetes Mellitus in the 21st Century'	Reims, FR
2015 - Oct 29-31	COLABIOCLI 2015 - XXII Congreso Latinoamericano de Bioquímica Clinica	Quito, EC
2015 - Nov	ArabMedLab 2015 - 14th Arab Congress of Clinical Biology (AFCB)	Khartoum, SD
2017 - Oct	WorldLab 2017 - 23rd International Congress of Clinical Chemistry and Laboratory Medicine	Durban, ZA

Calendar of events with IFCC auspices

2014 - June 8-11	2014 CSCC Annual Conference	Charlottetown, CA
2014 - Jun 10-14	Chemical Pathology Course 2014	Ha Noi & Ho Chi Minh City, VN
2014 - Jun 13	Cardiac Marker Dialogues - "High Sensitivity" Troponin - good test gone bad or the best thing since sliced bread	London, UK
2014 - Jun 15-19	Euromit 2014 - International Meeting on Mitochondrial Pathology	Tampere, FI

Continued on next page

2014 - Jun 18-20	Clinical and Management Aspects of Laboratory Medicine	Kos Island, Greece
2014 - July 1-5	International Conference "Healthcare integrated biobanking and multiomics biomarker analysis (July 3-5, 2014)" and pre-conference workshop on "Lipidomics for biomarker and clinical analysis (July 1-3, 2014)"	Regensburg, DE
2014 - Aug 4-6	18th Chilean Congress of Clinical Chemistry	Santiago, CH
2014 - Aug 14-16	8th Palestinian Conference of Medical Technology	Ramallah, Palestine
2014 - Aug 18-20	5th International Conference and Exhibition on Analytical and Bioanalytical Techniques	Beijing, CN
2014 - Aug 27-29	II Congreso Bioquímico del NEA	Corrientes, AR
2014 - Sept 9-13	10th EFLM Symposium for Balkan Region under the title Peadiatric Laboratory Medicine: Some aspects of the Obesity, Metabolic Syndrome, Neonatal Screening, Reference Intervals and Critical Values and 19th Congress of Medical Biochemists of Serbia	Belgrade, SRB
2014 - Sep 16-19	XXXIV Nordic Congress in Clinical Chemistry	Göteborg, SW
2014 - Sep 17-20	AACC Symposium: Critical and Point-of-Care Testing: Real World and Emerging Applications for Improved Clinical Outcomes	San Diego, US
2014 - Sept 18-20	XII Baltic Congress in Laboratory Medicine (BALM)	Riga, LV
2014 - Sep 19-21	Unipath 2014 - 54th Annual Pathology Congress of the Federation of South African Societies of Pathology	Pretoria, ZA
2014 - Sep 24-27	German Congress for Laboratory Medicine (DKLM)	Mannheim, DE
2014 - Sept 25-27	7th Santorini Conference “Systems Medicine Personalized Health and Therapy”	Santorini, GR
2010 - Oct 7-10	3rd EFLM/UEMS Congress "Laboratory Medicine at the clinical interface"	Liverpool, UK
2014 - Oct 15-17	VIII National Congress of Clinical Laboratory	Seville, SP
2014 - Oct 23-28	360-degree Lysosome: from structure to genomics, from function to disease	Izmir, TU
2014 - Oct 25-26	14th EFLM Continuous Postgraduate Course in Clinical Chemistry and Laboratory Medicine	Dubrovnik, HR
2014 - Oct 27-29	52nd Annual Scientific Conference of the Australasian Association of Clinical Biochemists	Adelaide, AU
2014 - Oct 31-Nov 3	14th Congreso Internacional del Colegio Nacional de Bacteriología	Bogota, CO
2014 - Nov 24-25	1st EFLM Strategic Conference “Defining analytical performance goals - 15 years after the Stockholm Conference”	Milan, IT
2014 - Dec 10-13	ACBICON 2014 - 41st National Conference of Association of Clinical Biochemists of India	Jodhpur, IN
2015 - May 20-24	Second World Congress on Water Channel Proteins (Aquaporins and Relatives) Celebrating the 30th Anniversary of the Discovery of the First Water Channel Protein	Cluj-Napoca, RO

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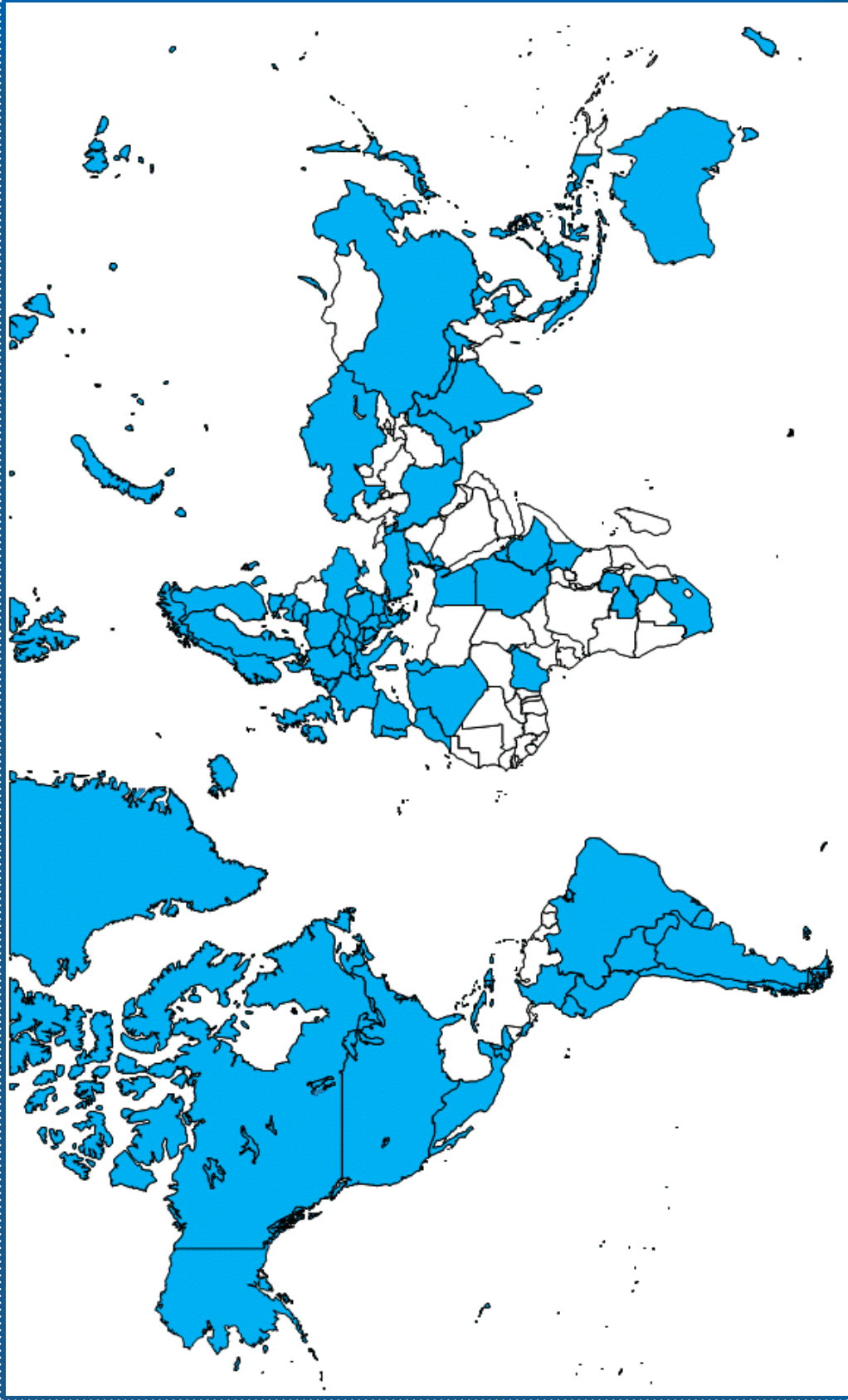

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European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)
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Publisher

Communications and Publications Division (CPD) of the IFCC

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Design & Production:

Insoft Digital
www.insoftdigital.com

Circulation

The e-NewsLetter is distributed to all IFCC members registered on-line to receive it and to all IFCC sponsors.

Deadlines for Submissions to the e-NewsLetter

The Communications and Publications Division (CPD) of the IFCC publishes six editions of the e-NewsLetter per year.

January-February Edition
- submission deadline: January 23

March-April Edition
- submission deadline: March 20

May-June Edition
- submission deadline: May 22

July-August Edition
- submission deadline: July 24

September-October Edition
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November-December Edition
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