Editorial: Laboratory medicine at the centre of the world – CPD symposium in Quito

XXII COLABIOCLI Congress – Quito, Ecuador

Dr. Graham Beastall, IFCC Past President – AACC 2015 Award

Increasing Clinical Effectiveness (ICE) Competition

Laboratory Accreditation: what is it and why is it important?

First Virtual Congress on Clinical Biochemistry: VirtuaLAB 2015

IFCC new Affiliate Member: Turkish Society of Clinical Biochemistry Specialists

IFCC new Corporate Member: Ningbo MedicalSystem Biotechnology Co.

NEWS FROM REGIONAL FEDERATIONS AND MEMBER SOCIETIES

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IFCC Travel Scholarships

IFCC's Calendar of Congresses, Conferences & Events
It was exciting to travel to the centre of the world and the highest capital city, Quito. The journey was long and it took a few days to recover from the jet lag but Ecuador is a beautiful and highly developed country. Concerns about the high altitude were largely unfounded but acetazolamide was on hand just in case. On arrival at the airport, Mount Cotopaxi could be seen emitting smoke. The CPD was hosted in Quito by the Organizing committee of the Congress and the CPD is grateful to the Organizing committee and President, Dr Maria del Carmen Pasquel for the hospitality. The following talks were given by members of the CPD in the symposium Advances in Paediatric Laboratory medicine:

Global initiatives on Paediatric Reference intervals (K. Adeli); Critical Values in Paediatrics (T. Pillay); Neonatal Sepsis: Early diagnosis and monitoring (K. Adeli for P. Verwaart); Paediatric Metabolic Syndrome (E. Delvin). In addition, there was talk on Risk Management in the Laboratory (T. Pillay) in a separate symposium. As it was expected, the conference was in Spanish with simultaneous English to Spanish translation provided by an excellent translator. The talks in the CPD symposium were well received and speakers were inundated with questions from the largely young attendees. The commercial exhibits were substantial and the venue, Marriott Hotel was ideally suited for a conference of this nature. This was an excellent congress and we thank the COLABIOCLI organizing committee and Dr Maria Carmen Pasquel for the gracious Ecuadorean hospitality.

by Tahir Pillay
IFCC eNews Editor
SOCIAL AND CULTURAL ACTIVITIES

SPEAKERS’ DINNER

On Thursday, 24 September 2015, following the opening ceremony, COLABIOCLI speakers participated in the dinner that was organized in the “Salón de Grados”, located in the inner part of the “Iglesia Compañía de Jesús”. This is an impressive baroque church, with volcanic stone facade and interiors decorated with sumptuous gold leaf.

The Church of the Society of Jesus is a spectacularly decorated Jesuit church. It is located in the historic or colonial center of Quito. Before the dinner, guests had the opportunity to visit it and saw the ornamental details and religious symbols used in the past by the Spaniards to encourage indigenous people towards the Christian faith.

The church is widely regarded as the most beautiful baroque building in Ecuador and was completed in 1765 after 160 years of construction. The huge baroque

ACTIVIDAD SOCIAL - CULTURAL: CENA DE COLABIOCLI PARA AUTORIDADES Y EXPOSITORES INTERNACIONALES

En la ciudad de Quito el jueves 24 de septiembre de 2015, posterior a la ceremonia de inauguración, se realizó la cena de COLABIOCLI para expositores y autoridades extranjeras en el Salón de Grados ubicada en la parte interior de la Iglesia Compañía de Jesús, que es un templo barroco impresionante, con fachada de piedra volcánica y los interiores adornados con hojas de oro suntuosa.

La Iglesia de la Compañía de Jesús, es una iglesia jesuita espectacularmente adornada, se encuentra en el centro histórico o casco colonial de Quito. La iglesia está construida en piedra volcánica y ricamente decorada con pan de oro. Durante la cena se visitó su interior y se pudo ver los detalles ornamentales y simbolismo religioso utilizado por los españoles para animar a los indígenas locales a la fe del cristianismo. La iglesia es ampliamente considerada como el más hermoso monumento barroco de Ecuador y se terminó en 1765 después de 160 años de construcción. La enorme fachada barroca está tallada en andesita que es una piedra volcánica ecuatoriana. La iglesia es del siglo 18 y es reminiscencia de la Basílica de San Pedro en Roma. La entrada y el techo representan símbolos del sol. El sol era un icono importante para los pueblos indígenas incas y los españoles lo pusieron en su decoración para atraer a más indígenas a la religión católica.

Article continued on next page
façade is carved in andesite, an Ecuadorian volcanic rock. The church is the 18th century and is reminiscent of St. Peter’s Basilica in Rome. The entrance and the roof represent symbols of the sun. The sun was an important Inca indigenous symbol so that it could attract more indigenous natives to Catholicism.

Upon entering the church, which is illuminated by a warm light radiating from the great nave and impressive altar and pillars, highlighted by gold leaf gilded plaster and wood carvings, the guests could appreciate the gold columns and geometric patterns of Mudéjar (Moors). When walking towards the nave, lighting and candlelight intensify the glitter of gold. The nave of 85 feet high is a barrel vault made of pumice and brick decorated with more than a hundred different paintings and sculptures.

The President of the Organizing Committee of the Congress, Dr. Maria del Carmen Pasquel and SEBIOCLI President, Dra Maria Saldarreaga, in the middle, along with IFCC officers Prof. Sergio Bernardini, IFCC Secretary, Tahir Pillay, Chief Editor IFCC eNews, and Prof. Tomas Zima, IFCC C-CC member. 

Presidenta del Comité Organizador del Congreso Dra. María del Carmen Pasquel y Q.F María Saldarreaga Presidenta de SEBIOCLI, junto a autoridades de IFCC, Dr. Sergio Bernardini Secretario y Dr. Tahir Pillay, IFCC eNews Editor.

Article continued on next page
In the Salón de Grados, guests were served a delicious dinner accompanied by music from a national artist who sang accompanied by his charango, a typical instrument, and two young Ecuadorians danced to folk music; LED blue lights gave a nice and beautiful atmosphere, and orange roses adorned the tables with contrasting colours.

During the dinner, the guests were given straw hats handmade by artisans in the Monte Cristi province of Manabi, Ecuador’s coastal zone. The wooden boxes displayed the Congress logo, and the flag of Ecuador.

The official group photo was taken in the Plaza Grande. Young people in typical costumes welcomed the guests. The torches they brought formed a path of honour for the guests.

jóvenes ecuatorianas danzaron música típica, luces led de color azul daban un ambiente agradable y hermosas rosas naranja adornaron las mesas del salón contrastando los colores.

Durante la cena se entregaron a los ilustres visitantes sombreros de paja toquilla hechos a mano por artesanos de Monte Cristi, provincia de Manabí, zona de la costa ecuatoriana en cajas de madera que tenían el logo del Congreso y la bandera del Ecuador.

La Foto Oficial del grupo se tomó después que los invitados fueron recibidos en la Plaza Grande por jóvenes que tenían trajes típicos y antorchas que formaron una calle de honor para los ellos.

Official photo of COLABIOCLI CONGRESS 2015:
IFCC officers, COLABIOCLI members, Organizing Committee, Congress Speakers, on the steps of the Quito Metropolitan Cathedral

Autoridades de IFCC, COLABIOCLI, Comité organizador, Expositores extranjeros y jóvenes con trajes típicos en la foto oficial del CONGRESO COLABIOCLI 2015 en las Gradas de la Catedral Metropolitana de Quito-Ecuador
Dr. Graham Beastall, IFCC Past President – Awarded at AACC 2015 for his Outstanding Contributions through Service to the Profession of Clinical Chemistry

IFCC is pleased to announce that Dr. Graham Beastall, IFCC Past President, has been awarded by AACC and its academy, the National Academy of Clinical Biochemistry (NACB) as recipient of one of the 2015 AACC and NACB Awards, which honour laboratory medicine professionals worldwide for advancing the field of clinical laboratory testing. Through these annual awards programs, AACC strives to support laboratory medicine practitioners in all stages of their careers and to build awareness of the essential contribution made by all laboratorians in today's complex, changing healthcare environment.

The Outstanding Contributions through Service to the Profession of Clinical Chemistry Award recognizes the individuals who have worked throughout their careers to advance the professional status of clinical chemists and the professional objectives of the AACC. Historically, this award has been conferred upon senior scientists, who have made significant contributions to clinical chemistry in its growth phase. Read Dr. Graham Beastall’s Biography on the IFCC website.

IFCC Website News

2015.09.13 - Assessing the Value of Laboratory Medicine in Clinical Care

The CPD Task Force on the Impact of Laboratory Medicine on Clinical Management and Outcomes (TF-ICO), chaired by Dr Mike Hallworth, prepared a presentation available in Resources and Downloads focusing on the role of Laboratory Medicine in clinical care that is essential to clinically accurate and cost-effective delivery of care. Read more

IFCC Website News

2015.08.16 - IFCC brochures 2015-17

The IFCC brochure introduces the IFCC and its activities and can be used to publicize the IFCC and its mandate. Visit the Resources and Downloads page of the IFCC website and click on Public Relations Resources to find the recently updated IFCC Brochure for 2015-2017, now in English and 12 other languages. Read more
IFCC is pleased to collaborate with the Clinical Laboratory Management Association (CLMA) and other supporters to bring an international dimension to the Increasing Clinical Effectiveness (ICE) programme.

ICE has been launched to encourage laboratory medicine specialists to collaborate with clinical colleagues to demonstrate that optimal use of the laboratory can have a measurable positive impact on patient outcomes.

ICE is open to any laboratory medicine specialist. He/she is invited to submit an abstract that describes testing-related interventions and the quantifiable positive impact for patients that they produced. Abstracts will be assessed and the winners of the 2015/16 competition will be invited to present their work at the CLMA Knowledge Lab Conference in March 2016. The winners of the ICE competition in 2016/17 will be invited to present their work at the IFCC: EFLM EuroMedLab congress in Athens in June 2017.

The window for submitting abstracts to the current ICE competition is now open. It will close on the 11th of December 2015.

- Abstracts should be a maximum of 750 words and comprise:
  - Statement of Problem and Background (Goal, Context, Rationale)
  - Intervention/Study Plan/Measures (Intervention choice, Study Design, Measure Appropriateness)
  - Data Analysis and Results (Actual data, Quality Assessment of Data, Data Interpretation, Limitations, Findings)
  - Discussion and Lessons Learned (Conclusions, Generalizability, Implications for Others)

Further details of ICE may be accessed from www.ICE-lab.org, where details can be found of the project, and the preparation of abstracts together with on-line training sessions to help choose and deliver the best project for an abstract submission.
Introduction

Surveys conducted by IFCC have revealed that laboratory accreditation is considered to be important by the vast majority of Full and Affiliate Member Societies. Those surveys, and informal discussions with colleagues from IFCC Member societies, also reveal that achieving laboratory accreditation is perceived to be challenging, particularly in those countries where there is little or no experience or track record of laboratory accreditation.

The IFCC position is that it recommends that clinical laboratories should work towards and eventually achieve laboratory accreditation in line with the ISO 15189:2012 standard entitled ‘Medical laboratories – requirements for quality and competence’. As part of that commitment, IFCC has a memorandum of understanding with the International Laboratory Accreditation Cooperation (ILAC), which encourages the two organisations to collaborate in promoting laboratory accreditation.

The IFCC Strategic Plan (2015-2017) contains two actions that commit IFCC to practical support for laboratory accreditation:

- Establish at least one new project with ILAC that aims to improve the application of quality management and laboratory accreditation.
- In conjunction with others, develop a route to laboratory accreditation for countries with limited resources.

This article relates to the first of these action points. It has been prepared jointly by IFCC and ILAC and it seeks to provide answers to two key questions:

- What is laboratory accreditation?
- Why is laboratory accreditation important?

The article relies on material published in a series of ILAC brochures, including:

- ISO 15189 Medical Laboratory Accreditation
- Why become an Accredited Laboratory?
- The Advantages of being an Accredited Laboratory

These and other brochures, including translations into multiple languages, are available from: http://ilac.org/publications-and-resources/ilac-documents/promotional-brochures/

What is Laboratory Accreditation?

A high proportion of clinical decisions are influenced by laboratory medicine results. This places laboratory medicine at the centre of modern healthcare, with influence over patient diagnosis, prognosis, therapy and long term management. Consequently, laboratory medicine specialists have a responsibility to ensure that the service they provide reaches high standards of quality and reliability. Increasingly, it is recognised that high quality in laboratory medicine includes what happens before the specimen reaches the laboratory (pre-analytical); what happens in the laboratory (analytical) and what happens once a result has been generated and reported (post-analytical).

Laboratory accreditation entails the independent assessment of the performance of a laboratory against an objective set of quality and competence standards. For medical laboratories (those that deliver laboratory medicine services) ISO 15189:2012 represents the current global best practise standard since it addresses quality management and technical performance across the pre-analytical, analytical and post-analytical phases of laboratory operation. This standard includes the qualifications and continuing professional development of staff; laboratory accommodation, equipment, reagents and supplies; and the considered opinion of users of the service.

The laboratory accreditation process requires the laboratory to submit an application to an accreditation...
body, usually in the same country. The accreditation body will preferably hold signatory status to the ILAC MRA (ILAC Mutual Recognition Arrangement) for the accreditation of medical laboratories using ISO 15189 or alternatively be a signatory to the mutual recognition arrangement of one of the regional cooperation bodies of ILAC. (Information on the ILAC MRA is available from [http://ilac.org/ilac-mra-and-signatories/](http://ilac.org/ilac-mra-and-signatories/))

The accreditation body will specify the information to be supplied by the laboratory and the requirements for accreditation, as well as a detailed outline of the assessment process. In preparing to submit an application the laboratory will conduct a series of internal audits against the requirements documents to determine its readiness for external assessment.

The formal assessment procedure will involve independent peer specialist scientific and clinical assessors, with expertise in the relevant discipline of practice, who conduct a thorough assessment of all factors in the laboratory that affect the production of test data. These will include:

- The quality management system
- The technical competence of staff
- The validity and appropriateness of test methods, including pre- and post-analytical elements such as sample collection and reporting
- Sample quality, including patient identification, handling and transport to maintain sample integrity
- A review of the history relating to previous patient results and any known clinical diagnoses
- Procedures relating to the use of “referral laboratories” such as specialised testing centres for specific diseases
- The traceability of measurements and calibrations to relevant standards
- The suitability, calibration and maintenance of test equipment
- The testing environment
- Quality assurance of test data
- Acceptable turnaround times
- The opinion of users of the service
- The application of appropriate ethical values

The laboratory is granted accreditation once it complies with the criteria set by the accreditation body. A certificate, or equivalent, is issued to confirm and demonstrate laboratory accreditation and the laboratory is then permitted to use an agreed endorsement to demonstrate that it has met the required standard. The laboratory should then use its quality management system to maintain and further improve its performance ahead of the next formal assessment, which will occur at regular intervals.

ILAC is the key international authority on laboratory accreditation, with a membership consisting of accreditation bodies and stakeholder organisations throughout the world. It is involved with the development of laboratory accreditation practices and procedures; the promotion of laboratory accreditation as a trade facilitation tool; and in the provision of services that promote an unpolluted environment, safe food, clean water and reliable health care services for the public benefit; the assistance of developing accreditation systems; and, the recognition of competent test and calibration facilities around the globe. ILAC actively cooperates with other relevant international bodies in pursuing these aims. Further information about ILAC may be obtained from [www.ilac.org](http://www.ilac.org)

**Why is Laboratory Accreditation Important?**

Laboratory accreditation is widely regarded as a benchmark of technical competence and high quality performance in the specialty of laboratory medicine. Accreditation is patient-focused, impartial and objective. Accreditation against a common global standard aids international recognition of the benchmark achievement.

Laboratory accreditation is important for several stakeholder groups:

**Patients and the public:**

The output from an accredited laboratory will provide patients and the public with confidence and reassurance about the quality and clinical relevance of their results. They will know that the results were obtained by trained and competent staff using up-to-date technologies and current best practice. As such, laboratory accreditation makes a significant contribution to patient safety.
**Users of the laboratory:**

Clinical users of an accredited laboratory will also have confidence in the quality and clinical relevance of the results that they receive. This will help them to plan patient investigations and management. There will be no need to duplicate testing and clinical practice guidelines will have greater relevance. Users will also know that they can contact laboratory staff to discuss interesting or difficult patient investigations. Overall, laboratory accreditation supports increased clinical effectiveness.

**Employing authorities and regulators:**

Laboratory accreditation provides independent assurance of the quality and safety of the laboratories overseen by employers and regulators. This establishes a high baseline of performance that provides a mechanism for measuring quality improvement and that encourages innovation. Therefore, laboratory accreditation is an important contributor to good clinical governance.

**Laboratory management and staff:**

Accreditation provides independent confirmation that a laboratory complies with best practice. As a result, laboratory management and staff have pride in their achievement and a determination to maintain and continually improve their performance. Accreditation enables employers and regulators to accept that the laboratory meets an international standard without the need for providing additional information or performance data. In marketing terms potential clients are more likely to use a laboratory if it is accredited, thereby opening up opportunities for innovation and collaborative research, including clinical trials.

**Suggested Detailed Reading on Laboratory Accreditation**


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The Argentine Biochemistry Foundation is pleased to announce the first virtual congress on clinical biochemistry (in Spanish) from 16-30 November 2015. Thanks to new technologies, this project offers the opportunity to Spanish-speaking colleagues to get updates through a new approach.

The scientific committee selected a wide programme addressing 14 topics with 24 conferences recorded by an excellent panel of experts.

The congress will be held fully on the Internet and will offer interactive conferences (video and slide presentations), covering the most relevant topics on clinical biochemistry. These conferences will be delivered in pairs every two days.

Attending this virtual congress is very simple and interactive. Every conference will be complemented with selected additional material on the presented topic, a discussion forum, and an interactive self-assessment quiz.

Speakers will give instruction for 72 hours after the conference, within the forum.
The complete material of the conference will be available in the Congress website and therefore attendees will not lose the chance to attend every event.

The congress will also offer a Virtual EXPO. The website will provide a section where sponsors from the industry will show products (videos and demonstrations) and will offer support to the customers (via forums, chats and Skype), a kind of “virtual booth”.

A POSTERS AREA will be offered as well. Attendees can submit posters to be reviewed by the scientific committee. After their approval, posters will be uploaded in PDF format to the website. A search tool will help attendees to find the topics of interest. A distinctive feature of this section is that every author will be able to upload a video (10 minutes) to comment or support his/her work.

Registration is open! To register or find more information about VirtuaLAB 2015 go to:
http://www.virtualab.org.ar/

The Society of Clinical Biochemistry Specialists was founded in Istanbul in 1999. The society has approximately 850 members working in the clinical biochemistry field.

The aims of the Society, the areas of activities and ways of working to achieve these aims are as follows:

- To promote Clinical Biochemistry in Turkey and to assist and enlighten the related establishments for health problems in the country,
- To make efforts to ensure the scientific activities and solidarity of members of the Society,
- To help the formation of scientific developments in Clinical Biochemistry in the country and to ensure members follow them,
- To organize scientific meetings in cooperation with local, national and international organizations and to produce publications,
- To protect the rights and interests of members,
- To support every aspect of members professional activities.

Executive Board Members:
- Necip İLHAN (President)
- Adnan HAŞİM
- Asım ÖREM
- Dildar KONUKOĞLU
- Erhan Cüneyt CANBULAT

IFCC welcomes a New Affiliate Member from Turkey

THE SOCIETY OF CLINICAL BIOCHEMISTRY SPECIALİSTİS - TURKEY

by Necip Ilhan
President of The Turkish Society of Clinical Biochemistry Specialists
The mission of our society is to promote the professional recognition of the clinical laboratory and contribute to the training and scientific knowledge of our members. Our main goal is to contribute to continuous training of our colleagues with diverse events such as seminars, conferences and national/international congress.

Our society gives a great importance to international scientific cooperation. Therefore, there are some particular projects carried out together with the American Association for Clinical Chemistry (AACC).

Some of these projects include:

- Articles in Journal of Clinical Chemistry with Labtestsonline;
- Trainee Council websites translated from English to Turkish;
- Translations presented for use to our colleagues.

In addition, our scientific cooperation continues with International Society of Laboratory Hematology (ISLH). ISLH members, participate in our national congress every year as invited speakers.

In particular, one of the main objectives of our society is to become a full member of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC)

External quality control programmes (KBUDEK) have been implemented to eliminate the lack of a national quality control program in Turkey in 2005 by the society. KBUDEK external quality control programme contains several panels.

Some of these panels include:

- Clinical Chemistry,
- Hormones,
- Coagulation,
- Tumor markers etc.

Our studies will continue for ISO/IEC 17043 Proficiency Testing of external quality control programmes.

The Society’s official web page (www.kbud.org.tr) contains the latest new information.
IFCC welcomes a New Corporate Member: Ningbo MedicalSystem Biotechnology

As a leading company in the field of clinical chemistry in China, Ningbo MedicalSystem Biotechnology Co., Ltd. specializes in the development, manufacturing and marketing of diagnostic system solutions certified by Quality Management System ISO 9001: 2008 and ISO 13485: 2012.

MedicalSystem focusses on providing IVD products and the third party clinical diagnostic services to hospitals and other medical institutions. MedicalSystem is committed to build the business model of “taking the diagnostic products as the core, integrating diagnostic product and service” to fulfill the needs of customers. MedicalSystem has a first-grade R&D team and has obtained more than 128 in-vitro diagnostic reagents registration certificates licensed by CFDA covering most of the clinical chemistry tests and has become one of the manufacturers with the largest range of chemistries in China. Additionally, MedicalSystem has 4 automatic biochemistry analyzer registration certificates. These analyzers can meet customer requirements completely. MedicalSystem is one of the largest manufacturers in Chinese IVD industry that can provide diagnostic reagents and instruments together.

MedicalSystem has established a high-level reference laboratory for standardization of their IVD products since 2009, the quality of measurement services was assured through compliance with ISO 15195: 2003 and ISO 17025: 2005 and through regular participation in appropriate EQAS. In RELA 2014, the reference laboratory (Labcode 087) has participated in 19 measurands (including Enzymes, Proteins, Electrolytes, etc.) with satisfactory results. In order to improve the accuracy of patient results in clinical laboratories, MedicalSystem has developed the first EQA scheme (MSE-QA) launched by a Chinese IVD manufacturer which provides a means of assessing the analytical performance of a laboratory compared to others.

IFCC Website News

2015.06.25 - eJIFCC 2015 - Volume 26 no 3

The IFCC CPD is happy to present the current edition of the eJIFCC in an improved format that allows download of single articles or the whole volume, for easier archiving of preferred papers. "Guidelines for Laboratory Medicine and Biomarkers" is the theme of the new issue, now available. The guest editor is Professor Andrea Rita Horvath MD, PhD, FRCPath, FRCPA from Australia, an internationally renowned expert. The contributed articles focus on how guidelines are developed to assist health care professionals and patients in making decisions about appropriate health care in specific clinical circumstances. A letter on "working terms" complete the issue.
The Organizing Committee of the XVIII REGULAR CONGRESS Bolivian Society of Clinical Biochemistry has scheduled a meeting in the city of Oruro from 25-28 November 2015. This important event of academic scientists will be held in the “IV CENTENNIAL CONVENTION CENTER” NATIONAL ENGINEERING SCHOOL OF DEPENDENT Oruro Technical University.

The city of Oruro is the capital of the province Cercado, is situated in the northeastern part of the country. It has an area of 5009 km2 and has many natural, cultural and tourism resources. Oruro is the capital of Folklore of Bolivia, thanks to the majesty of its carnival. In 2001, UNESCO declared the Carnival of Oruro as the “Masterpiece of Oral and Intangible Heritage of Humanity”. The Sajama National Park, one of the most important tourist destinations in Bolivia, is located in the heart of Western Cordillera of the Andes and is the first protected area in the country. The Thunupa volcano is a sacred mountain revered by pre-Columbian, Inca and other indigenous cultures. Carangas Curahuara Chapel is one of the oldest chapels in South America, also known as the Sistine chapel of the Altiplano. Today, one can visit the mines of Oruro showing the whole story in the colonial, republican and working system of mining cooperatives period. The San Jose mine is located 1.5 kilometers from the city centre. It began to be exploited more than two centuries ago. The Chipaya culture, a name that comes from the Aymara word meaning Ch’ipa matted straw, located near the Salar de Coipasa, on the banks of the Lauca River, 188 kilometers from the city of Oruro. Oruro has hot springs of great importance, which originate by contact with hot rocks of volcanic regions, where mineralogical salts dissolve due to the high temperature. El Popo Lake is called the “navel of the world” and is the second largest lake in Bolivia, with an area of 4250 km2 and its altitude is 3686 m. The cave paintings of Cala Cala, chullpares Macaya, Alcaya Citadel, the Chipaya culture and Pampa Aullagas are tourist destinations that one can visit. There is also the opportunity to visit the Salar de Uyuni, which is in the Department of Potosi close to the city.

The Congress will feature the participation of professionals from prestigious international organizations such as the IFCC (International Federation of Clinical Chemistry), COLABIOCLI (Latin American Confederation of Clinical Biochemistry), Argentina Biochemistry Foundation, Foundation WIENER, AACC, Quality Control Program Brazil (PNCQ,) Luis Brown Foundation, along with prominent national professionals who will share their experience with all Bolivian and foreign professionals attending our event.
XVIII
CONGRESO NACIONAL ORDINARIO DE LA
SOCIEDAD BOLIVIANA
de Bioquímica Clínica
25-26-27-28
Noviembre 2015
ORURO - BOLIVIA

Bolivia en el Nuevo Contexto Internacional
y los Desafíos para el Futuro

Dra. María de Daminato
Dr. Roberto García
Dr. Manuel Arca
Dr. Hernán Fanes
Dr. Juan Pablo Gramatico
Dr. Carlos Navarro
Dr. Eduardo Aranda
Dr. Leverton Ortiz

Dr. Gabriel Lima de Oliveira
Dr. Amadeo Szent-Alezevar
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Oruro, awaits with the greatest cordiality, simplicity and kindness and we are working to make your stay an unforgettable memory.

**The main themes of the event will be:**

- EXTERNAL EVALUATION PROGRAM QUALITY
- QUALITY MANAGEMENT SYSTEMS
- ACCREDITATION OR QUALITY MANAGEMENT
- INTERNAL QUALITY CONTROL
- QUALITY CONTROL bacteriology, BLOOD BANKS AND IMMUNOLOGY
- PROFESSIONAL ROLE OF BIOCHEMICAL EQUIPMENT HEALTH
- QUALITY CONTROL hemostasis and coagulation
- NEW CHALLENGES OF CLINICAL LABORATORY
- FIGURES RELATED TO BIOLOGICAL MEDICAL EMERGENCY

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**Zimbabwe Association of Clinical Biochemistry**

**Call for free submission of journal papers**

by Christopher Mafuva

Clinical Chemists is available on [www.spectrohealth.co.uk](http://www.spectrohealth.co.uk). The Journal is open access. This is an opportunity for both continuous professional development as well as contributing positively to Global Public Health.

The following categories of articles are called for:

- Research articles
- Review articles
- Letters to the Editor
- Opinion articles
- Short communications

If interested, please contact:
Christopher Mafuva  
PhD-cand, MSc, BSc, FRSPH (Editorial Assistant)  
Journal of Biomedical Science and Public Health  
London United Kingdom  
email: JBSPH@spectrohealth.co.uk

We would appreciate receipt articles by the above referred dates.
Laboratory Medicine is a key scientific and professional field for implementing Personalized Medicine. The definition of Personalized Medicine, according to the EU Commission, refers to “a medical model using molecular profiling for tailoring the right therapeutic strategy for the right person at the right time, and/or to determine the predisposition to disease and/or to deliver timely and targeted prevention” (1). The recent developments in “omics”, meaning genomics, proteomics, metabolomics, opens new challenges for Laboratory Medicine that is now asked to play a key role in personalized medicine, leading to an improvement in diagnostics and therapeutics focused on individuals rather than populations.

Since 2013, a joint working group “Personalized Laboratory Medicine” (WG-PLM) of the EFLM (European Federation of Clinical Chemistry and Laboratory Medicine) and ESPT (European Society of Pharmacogenomics and Personalized Therapy) societies has been established and is working in this challenging field. In particular the terms of references for this WG are to develop documents and to disseminate knowledge on the implementation in the clinical Laboratory of Personalized Laboratory Medicine approach in European countries, according to the principle mission of both European societies.

The main deliverables for the WG-PLM are:

1. To write papers dealing with this important and emerging role of the Laboratory Medicine in the personalized practice in medicine and healthcare
2. To prepare a questionnaire on Personalized Medicine for professionals of European Laboratory Medicine.
3. To divulge to medical and scientific community the potentials and limits of the most recent laboratory technologies applied in personalized medicine, in particular highlighting the issue of quality control in Pharmacogenomics.

Four members of this WG belong to EFLM and they are Mario Pazzagli, the WG Chair (Italy), Ivan Brandslund (Denmark), Pieter Vermeersch (Belgium) and Chiara Di Resta (Italy); the other three members are ESPT members and they are Jania Marc (Slovenia), Ron Van Schaik (Netherlands) and Matthias Schwab (Germany).

At the beginning of 2015, a paper was published in Clinica Chimica Acta on the implementation of a companion diagnostic in the clinical laboratory, focusing on BRAF example in melanoma (2). In this publication the main issues essential for the implementation of a new molecular test in a clinical laboratory are discussed. Moreover, in order to investigate whether Laboratory Medicine is able to implement new diagnostic tools and expertise and command proper state-of-the-art knowledge about Personalized Medicine and Laboratory Medicine in Europe, the joint Working Group compiled and conducted the Questionnaire “Is Laboratory Medicine ready for the era of Personalized Medicine?”. An official letter was sent to National Representatives of the EFLM and ESPT societies, inviting them to identify a selected group of Laboratory Directors of the main Hospitals/Academic Schools of Medicine of their countries where technological tools in “-omics”, and facilities of bioinformatics, pathology, pharmacology should be available. The results of this questionnaire have been collected and discussed in a paper co-published in CCLM and DMPT (3).

The answers of the participating laboratory medicine professionals indicate that they are aware that personalized medicine can represent a new and promising health model, and that laboratory medicine should play a key role in supporting the implementation of personalized medicine in the clinical setting. Participants think
that the current organization of laboratory medicine needs additional/relevant implementations such as
(i) new technological facilities in -omics; (ii) additional training for the current personnel focused on the new methodologies; (iii) incorporation in the laboratory of new competencies in data interpretation and counseling; and (iv) cooperation and collaboration among professionals of different disciplines to integrate information according to a personalized medicine approach.

Moreover, the WG-PLM actively participates in international congresses with oral communications or posters, such as at the ESPT 2013 (Lisbon), at 21th Meeting of Slovenian and Croatian Societies of Clinical Chemistry and Laboratory Medicine 2014 (Zagreb), or at the recent EuroMedLab 2015 (Paris).

The power of this WG is based on the joint collaboration of members of EFLM and ESPT that are two European societies actively involved in the enhancement of patient care and in the improvement of the scientific, professional and clinical aspects of laboratory medicine at EU level.

REFERENCES:


Increasing number of studies emphasize the need for improving the clinical utilization of laboratory tests and that laboratory professionals should play a more prominent role in this optimization process. In order to understand this new challenge of laboratory profession EFLM established in 2010 a joint Working Group on the Postanalytical Phase (WG-POST) with the European Organisation for External Quality Assurance Providers in Laboratory Medicine, with an aim to assist laboratories in taking a more active role in supporting clinical utilization of laboratory tests. WG-POST organizes research studies to investigate the activity of laboratories and clinicians in post- and post-postanalytical phase. The principal methodological approach of WG-POST is based on electronic questionnaires where case histories are given accompanied by laboratory tests results playing crucial roles in the investigated clinical decision and then providing participants questions on the investigated extra-analytical activities. The surveys represent an approach of external quality assessment (EQA) in postanalytical phase, when WG-POST provides a feedback report to the participants of these studies including the summary of the main findings with an update of the recent literature and guideline recommendations of the investigated practice.

Five years of activity of WG-POST resulted in several large European surveys and scientific publications, that involved several hundreds to thousands of laboratories or clinicians of Europe. The most recently published work of WG-POST focused on the postanalytical and interpretation of a pathological result of a common laboratory test such as an activated partial thromboplastin time (APTT). An unexpectedly prolonged APTT (uAPTT) even without prior history of bleeding is expected to be investigated promptly by laboratories detecting uAPTT results first, because of the potentiality of acquired hemophilia. The essentially required basic laboratory information in a patient with uAPTT after excluding spurious reasons is differentiation between uAPTTs due to inhibitor effect and factor deficiency. The findings of this study revealed considerable diversity in both the investigations of uAPTTs in the 990 responding laboratories and in their interpretations.

A significant percentage of the laboratories (88%) exhibited shortcomings with respect to investigations of uAPTTs with the potential consequence of delayed or misdiagnosis of the patients. Only staff at 49% of the laboratories could adequately discriminate between inhibitory and non-inhibitory forms of uAPTT. It is striking that staff at only 9.6% of all of the participating laboratories performed uAPTT investigations correctly and provided correct clinical interpretations.

The clinical requirement for prompt investigation of uAPTTs cannot be fulfilled at most of the laboratories included in this study.

The main conclusion of all the studies run by WG-POST, including uAPTT survey, is that training programs designed to educate laboratory professionals in postanalytical investigations and test interpretation, as well as EQA programs focusing on interpretative commenting are needed. Therefore, the results of WG-POST’ surveys are used intensively in the process of continued professional development of clinicians and laboratory professionals alike, and WG-POST provides many presentations on the results of the surveys, both on national and international conferences as well as on training courses.
<table>
<thead>
<tr>
<th>Title of the study (launch of the questionnaire)</th>
<th>Target population of the study</th>
<th>No. of responses (No. countries)</th>
<th>Investigated actions (name of the study)</th>
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<tr>
<td>How laboratories handle and evaluate patient samples after detecting an unexpected APTT prolongation (2012)</td>
<td>Laboratory professionals responsible for coagulation</td>
<td>990 (90% from 13 countries)</td>
<td>Total postanalytical phase involving: Technical verification, Reflex testing, Medical validation, Reflective testing, Interpretative commenting, Reporting</td>
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<tr>
<td>*Management of high-risk results in clinical laboratories - European practice (2013)</td>
<td>Laboratory professionals</td>
<td>871 (90% from 11 countries)</td>
<td>Reporting</td>
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<tr>
<td>Interpretation and management of INR results: a case history based survey in 13 countries (2010)</td>
<td>Clinicians working with monitoring vitamin K antagonists</td>
<td>3016 (from 13 countries)</td>
<td>Post - postanalytical phase: laboratory result - based clinical action</td>
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<tr>
<td>Are standardised clinical algorithms followed in the diagnostic work-up of patients with suspicion of venous thromboembolism? A study in six European countries (2012)</td>
<td>Clinicians working with patients suspected for venous thromboembolism</td>
<td>487 (from 6 countries)</td>
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</table>

European surveys organised by joint WG-POST of EFLM and EQALM.
* Task and Finish Group on Critical Results was designated for this task under the supervision of WG-POST.

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**EFLM Questionnaire on “Performance Specifications for the extra-analytical phases”**

by Mario Plebani, MD
Chair, EFLM TFG-PSEP

Dear Colleague,

On behalf of the EFLM Task Force on “Performance Specifications for the extra-analytical phases” (TFG-PSEP), I would like to ask for your valuable cooperation by answering the questionnaire that we have prepared to better understand the point of view of the laboratory professionals on this topic.

This, in turn, will allow us to better focus the efforts and projects aiming to consensually define performance specifications for both the pre- and post-analytical phase.

This is not an easy task and therefore we need to receive cooperation, creative ideas and eventually criticisms by all potentially interested laboratory professionals.

Obviously, we will share with the laboratory community the results of the questionnaire, as well as further steps of the project.

By clicking on the link [https://www.surveymonkey.com/r/TFG-PSEP](https://www.surveymonkey.com/r/TFG-PSEP), you will be redirected to the survey.

We would be grateful if you could let us have your feedback by October 15, 2015.

Thank you for your kind attention and best regards.
EFLM Website page listing the publications has been recently updated

by MariaStella Graziani
Chair, EFLM Communication Committee
Francesca Tosato
Chair, EFLM WG on Promotion and Publications

The Communication Committee is happy to inform that the EFLM website page listing the publications produced by the EFLM functional units has been recently updated. To facilitate the consultation, the page has been divided into seven different sections according to the following topics:

- Education, Training and Professional Registration
- Guidelines & Recommendations
- Position & Opinion Paper
- Reviews & Surveys
- Laboratory Management, Staffing and Professional Practice
- Quality Management and Laboratory Accreditation
- Standardisation & Harmonisation of Clinical Laboratories

By simply clicking each section, you will be redirected to the related papers list where you can also download the PDF file of each article. Papers are listed in chronological order. If you are looking for a specific paper, you can easily retrieve it in the pdf file containing the full list of papers, available under “Papers retrieval”. The file includes the article references (Title, Authors, Journal, Year, Volume and Pages) and the key words as well.

We would like to thank Silvia Cattaneo from the EFLM office, the members of the Working Group Promotion & Publications, and Merve Sibel Gungoren in particular for the great job done.

EFLM Working Group on Distance Education and e-Learning (WG-DE)
Two e-seminars planned in the coming months

by Dragana Segulja
WG-DE chair
Elizabeta Topic
C-ET Chair

EFLM Working Group on Distance Education and e-Learning (WG-DE) of the EFLM Committee Education and Training (C-ET) is proud to announce that two e-seminars have been planned in the coming months.

The first one will be presented by Professor Sverre Sandberg on 14th October 2015 at 18h00 (CET). Professor Sandberg, member of the Steering Committee coordinating the EFLM Task Force on Performance Specifications in Laboratory Medicine, will give us an overview of models to set analytical performance specifications and will discuss one of the most important questions in our discipline: “With what quality should we perform our tests in laboratory medicine?”

The second e-seminar will be presented by Professor Kjell Grankvist, member of the EFLM Working Group on Preanalytical phase on 10th November 2015. Prof Grankvist will talk about the “Management of the quality in the preanalytical phase” and will introduce the phlebotomy practice guidelines.

Additional education material together with e-seminar recording will be available on EFLM website in the e-learning section after the seminar. Only the online participation however allows the attendees to interact with the presenter and ask questions and obtain answers.

Information on how to register and to access the e-seminar will be available in due course on EFLM website in the News section. It should not be forgotten that EFLM offers this educational opportunity free of charge. Keep updated with this interesting EFLM activity!

We do hope to see many of you participating in these important e-seminars.
1. The Turkish Biochemical Society (TBS), with its more than 2,000 members and 3 main branches, celebrates its 40th anniversary this year. One of its hallmark activities, the 27th National Biochemistry Congress will be held in Antalya, on 3-6 November, 2015. The former president of TBS, Prof. Dr. Nazmi Özer will give an opening talk on the history of the society which will be followed by the opening lecture that will be given by Ana Maria Simundic-EFLM General Secretary on ‘Preanalytical errors and patient outcomes’. The rich scientific programme of the congress will cover many current themes in laboratory medicine (clinical chemistry, haematology, genetics, molecular biology) and basic – molecular life sciences, that will be delivered in more than 10 symposia with more than 40 speakers and 40 oral communications. Over 600 attendees are expected to the congress, of which the abstracts will be published in a special issue of the Turkish Journal of Biochemistry.

2. TBS signed an agreement with DeGruyter, to cooperate in the online publishing and distribution of the Turkish Journal of Biochemistry, starting from January 2015.

3. At the general assembly in May 2015, elections were organized for the new executive board of TBS, which now includes the following positions:
   - President: Dogan Yucel
   - Vice-president: Ferhan G. Sagin
   - Secretary: Gunnur Dikmen
   - Treasurer: Mehmet Senes
   - Members: Aylin S. Dincel, Gulsevim Saydam, Ali Unlu, Oytun Portakal, Suat Kucuk

   The national representatives are, Abdurrahman Coskun for EFLM, Diler Aslan for IFCC, Tomris Ozben for BCLF, Nazmi Ozer for FEBS, Gunnur Dikmen & Aylin S. Dincel for IUBMB, Ali Unlu & Murat Bolayirli for WASPaLM.

4. Last but not least, TBS is hosting the 41st FEBS Congress in Ephesus-Kusadasi, Molecular and Systems Biology for a Better Life, on 3-8 September 2016. The website for the Congress is http://www.febs2016.org/ and it being chaired by Prof. Dr. Nazmi Özer, the former president of TBS. The Congress has a very rich programme and distinguished plenary speakers from all over the world. Registration and abstract submission begins on Sep. 30, 2015.

From the FEBS 2016 presentation of TBS in Berlin (FEBS 2015 Congress)
EuroMedLab 2015 was an unforgettable experience in every way. A congress of unparalleled magnitude; with more than 4 000 delegates from 106 countries, with over 150 kiosks of IVD exhibitors and more than 1 000 abstracts received. Definitely beyond my expectations.

The scientific quality of the lectures was impressive. I particularly have to mention the workshop on Publication ethics and scientific writing imparted by Prof. Rafai and Prof. Annesley from USA, whose valuable information was mind opening and definitely will be applied to my next papers. I also enjoyed the opening lecture by Prof. Jules Hoffman about innate immunity, as well as the symposium about Assessing cardiovascular risk with new laboratory parameters, specially the one by Prof. Magdalena Krintus on the...
Performance of non-HDL cholesterol vs ApoB in cardiovascular risk. I think this newly proposed assessment can be applied in Guatemalan patients after validating the results of the test with a pilot study and corroborating its benefits.

I had the opportunity and honour to meet several members of the Executive Board of IFCC, as well as other colleagues awarded scholarships to attend the congress. It was very rewarding to share and socialize with them. It was also very nice to talk with American colleagues about their ongoing research projects and possible academic and scientific cooperation between our institutions.

I deeply appreciate the opportunity that the IFCC gave me to attend this congress, which brought new knowledge, good and enriching experiences and above all, unforgettable memories of a beautiful city, Paris; with great diversity and cultural richness and beautiful places to visit.
my interest towards carrying out, presenting and publishing research work. There were really interesting lectures that will be very useful in my daily laboratory work and in the process of accreditation of the laboratory where I work.

By visiting the booths conducted by the exhibitors I could gather information and knowledge on advanced instruments and technology, quality control systems, reagents and laboratory automation.

Poster presentations and oral presentations done on research work were also interesting and I learnt what to expect if I had to make an oral or a poster presentation. During poster presentations I could share my experiences on laboratory work and research work with other presenters. It was a great opportunity to make friends from different countries and share their experiences on chemical pathology profession and laboratory work.

The IFCC gathering at the IFCC booth was a wonderful experience and it was a great pleasure to meet IFCC present and past presidents, IFCC staff and my fellow scholarship awardees.

The EuroMedLab Paris 2015, my first international conference has left pleasant memories of congress activities, presentations of scientific material, delegates, exhibition area and the beautiful city, Paris. A variety of experiences gathered in one place within few days! With all of this I have developed encouragement to seek more and more knowledge on chemical pathology and to serve to improve the laboratory services in my country.

At the outset, I would like to sincerely express my deepest gratitude to IFCC and especially Dr. Graham Beastall for considering me for the prestigious IFCC-ROCHE travel scholarship award. It gave me a tremendous opportunity to attend as well as present my research work at such a big international platform where eminent scientists and clinicians from different parts of the globe shared their experience and views on various important aspects of clinical biochemistry. I was completely in awe listening to Prof Hattersley, Prof Dennis Lo, Prof Oellerich and many others, who are pioneers in their respective field and they gave me a different perspective on approaching scientific research. Also, the exhibition by different companies was extremely useful as it kept me abreast with the newer technologies currently available for effective management of clinical and molecular diagnostics laboratory. The experience as well as the knowledge gained during the Euromedlab congress has been and would indeed be of immense help to me in the future.

Once again, I would like to sincerely thank the IFCC for the award and appreciate them for their honest as well as excellent efforts in encouraging young scientists worldwide.

This moment was very impressive for me. I met IFCC president and past president, IFCC team, Roche president, scientists and young scientists from France, Germany, India, Sri Lanka, Netherlands and Indonesia.
# IFCC's Calendar of Congresses, Conferences & Events

## Calendar of IFCC Congresses/Conferences and Regional Federations' Congresses

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>Nov 16 - 17, 2015</td>
<td>IFCC POCT International Symposium</td>
<td>Cancun, MX</td>
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<tr>
<td>Dec 4 - 6, 2015</td>
<td>ArabMedLab 2015 - 14th Arab Congress of Clinical Biology (AFCB)</td>
<td>Khartoum, SD</td>
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<tr>
<td>Nov 26 - 29, 2016</td>
<td>14th Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine Congress</td>
<td>Taipei, TW</td>
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<td>Sep 17 - 22, 2017</td>
<td>XXIII COLABLIOCLI Congress 2017</td>
<td>Punta del Este, UY</td>
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<tr>
<td>Oct 20 - 22, 2017</td>
<td>XIV International Congress of Pediatric Laboratory Medicine</td>
<td>Durban, ZA</td>
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<tr>
<td>Oct 22 - 25, 2017</td>
<td>XXIII IFCC WorldLab 2017</td>
<td>Durban, ZA</td>
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*Calendar continued on next page*
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<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Oct 22, 2015</td>
<td>International Conference on Laboratory Medicine: &quot;Risk Factors and Personalized Medicine&quot;</td>
<td>Padova, IT</td>
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<tr>
<td>Oct 24 - 25, 2015</td>
<td>15th EFLM Continuing Postgraduate Course in Clinical Chemistry and Laboratory Medicine</td>
<td>Zagreb, HR</td>
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<tr>
<td>Oct 24 - 25, 2015</td>
<td>High Quality Control Training Course</td>
<td>Guanajuato, MX</td>
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<tr>
<td>Nov 3 - 6, 2015</td>
<td>XXVII National Biochemistry Congress</td>
<td>Antalya, TR</td>
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<td>Nov 14 - 15, 2015</td>
<td>High Quality Control Training Course</td>
<td>Mexico City, MX</td>
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<td>Nov 16 - 30, 2015</td>
<td>1°Congreso Virtual de Bioquimica clinica - VirtualLAB</td>
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<tr>
<td>Nov 18 - 21, 2015</td>
<td>XXVIII World Congress of the World Association of Societies of Pathology and Laboratory Medicine (WASPaLM)</td>
<td>Cancun, MX</td>
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<td>Nov 25 - 28, 2015</td>
<td>ACBICON 2015</td>
<td>Chandigarh, IN</td>
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<td>Nov 26 - 29, 2015</td>
<td>XVII National Congress of clinical laboratory professionals</td>
<td>Punta Cana, DO</td>
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<td>Nov 27, 2015</td>
<td>9th International Scientific Meeting &quot;Structuring EQAS for Meeting Metrological Criteria: ready for prime time&quot;</td>
<td>Milano, IT</td>
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<tr>
<td>Feb 11 - 12, 2016</td>
<td>Labquality Days - Nordic Congress on Quality in Laboratory Medicine</td>
<td>Helsinki, FI</td>
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<td>Mar 9 - 11, 2016</td>
<td>IX National Congress of Clinical Pathology, CONAPAC 2016</td>
<td>Havana, CU</td>
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<tr>
<td>Mar 24 - 25, 2016</td>
<td>5th International Conference on Vitamin D Deficiency and its Clinical Implications</td>
<td>Abu Dhabi, UAE</td>
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<tr>
<td>May 12 - 14, 2016</td>
<td>XIII Baltic Congress of Laboratory Medicine</td>
<td>Tartu, EE</td>
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<tr>
<td>Sept 21 - 24, 2016</td>
<td>4th Joint EFLM-UEMS Congress &quot;Laboratory Medicine at the Clinical Interface&quot;</td>
<td>Warsaw, PL</td>
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<tr>
<td>Oct 20 - 22, 2017</td>
<td>XIVth International Congress of Pediatric Laboratory Medicine</td>
<td>Durban, ZA</td>
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</table>

many other countries. We were able to share many experiences of laboratory facilities and updated information at delicious food, and visit very beautiful places in Paris.

This congress was so big with the updates from presenters and presentations. I am sure it can be a meaningful congress for all scientists around the world who are eager to see the next congress.

I would like to thank the IFCC President and Past President, Roche representative and IFCC team Silvia Colli-Lanzi and Paola Bramati for their very valuable support.
### IFCC Members

#### Full Members

<table>
<thead>
<tr>
<th>Country</th>
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<th>Affiliate Members</th>
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<tr>
<td>Albania (AL)</td>
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<td>Brazil: Sociedade Brasileira de Patologia Clinica / Medicina Laboratorial (SBPC/ML)</td>
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<td>India: Association of Medical Biochemists of India (AMBI)</td>
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<td>Argentina (AR)</td>
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<td>Iran: Iranian Association of Clinical Laboratory Doctors</td>
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<td>Palestine: Palestinian Medical Technology Association (PAMTA)</td>
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### Regional Federations

- Arab Federation of Clinical Biology (AFCB)
- African Federation of Clinical Chemistry (AFCC)
- Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCL)
- European Federation of Chemical and Laboratory Medicine (EFML)
- Latin America Confederation of Clinical Biochemistry (COLABIOCLI)
- North American Federation of Clinical Chemistry and Laboratory Medicine (NAFCC)
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  - submission deadline: March 26

- **May-June Edition**
  - submission deadline: May 21

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  - submission deadline: July 16

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  - submission deadline: September 24

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