

e-Newsletter



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In this issue

- ‘Shaping the Future of Laboratory Medicine’:
Update December 2013** Pages 3-4

- 4th “ACBI-IFCC Task Force for Young Scientists” Educational Symposium
At 40th ACBI CONFERENCE, 5th Dec 2013, Delhi, India
*Promising Pathways for Young Scientists-Today & Tomorrow***
..... Pages 5-7

- FUJIREBIO Europe** Page 7

- NEWS FROM REGIONAL FEDERATIONS AND NATIONAL ASSOCIATIONS**
 - SERBIA:
9th EFLM SYMPOSIUM FOR BALKAN REGION
“Integrative Algorithms in Patient-Focused Laboratory Medicine”**
..... Pages 8-10

- PMEP LABORATORY QUALITY MANAGEMENT PROGRAM** ... Pages 11- 14

- INTERNATIONAL AGREEMENT TO IMPROVE QUALITY IN
LABORATORY MEDICINE.
Nomenclature, Properties and Units (NPU) Terminology**..... Page 15

- IFCC 's Calendar of Congresses, Conferences & Events** Page 16

- Editorial Cassette** Page 18

'Shaping the Future of Laboratory Medicine': Update December 2013

by IFCC Executive Board

Background:

In May 2013 IFCC launched a one year consultation on the future organisation and delivery of laboratory medicine services. This consultation was facilitated by the distribution of a short pamphlet entitled 'Shaping the Future of Laboratory Medicine'. The consultation will conclude with a definitive debate at the IFCC Council meeting in Istanbul in June 2014.

The Executive Board (EB) is greatly encouraged by the high level of debate that has already taken place amongst IFCC Members during the first six months of the consultation. We have met with or corresponded with several IFCC Members and have promoted discussion at all five IFCC Regional Federations. We are aware that several Members have the topic under active discussions with their membership and we are encouraged that many will come to the debate in Istanbul with a detailed understanding of the topic as it applies to the patients that they serve.

The purpose of this short article at the 'mid-point' of the consultation is to review the issues that have arisen to date and to encourage all IFCC Members to use the final six months of the consultation to develop their own vision and action plan to aid 'Shaping the Future of Laboratory Medicine'.

General Conclusions to Date:

1. All responding IFCC Members agree on:

- The growing importance and significance of laboratory medicine in health care
 - The rapid advances in quality, technology and delivery models in laboratory medicine
 - Progress towards personalized medicine and patient centred care
 - The globalisation of laboratory medicine and the need for further harmonisation
 - The need for evolution in the organisation and delivery of laboratory medicine services at local, national and international level
 - The need for IFCC to adapt so that it can provide strong global leadership
2. The initial reaction from some IFCC Members was to see 'Shaping the Future of Laboratory Medicine' as a threat. The focus of the immediate response was

to look at the implications for their relationship with IFCC. Several specific questions were raised, which IFCC answered to the best of its ability in September 2013. However, as the consultation has progressed most IFCC Members have come to appreciate that this topic is just as relevant to the role of their society or company as it is to IFCC. Consequently, the focus of discussions has shifted to a mature internal debate that takes a long term view of the future of our profession and how it can best serve the patient.

Messages Emerging from the Consultation:

3. The dominant consideration when looking to the future is the quality (defined in its widest sense) of the service that is provided by laboratory medicine to patients. This consideration should transcend the self interest of individuals, national societies and companies.
4. The results of a survey of IFCC Full Members conducted in November 2013 reveal that 100% are actively involved in clinical chemistry. However:
 - >50% are not active in transfusion, transplantation or informatics
 - ~50% are not active in genetics or virology
 - ~40% are not active in microbiology or molecular pathology
 - ~25% are not active in haematology or immunology
 - There is very little involvement with anatomic (cellular) pathology
 - These data support the conclusions that:
 - Laboratory medicine and anatomic pathology should be considered as separate specialties
 - Many current IFCC Full Members are not active in important and emerging sub-specialties of laboratory medicine
 - Activity across the full scope of laboratory medicine at national and international level (including IFCC) may only be achieved by greater inclusivity. This may be achieved by closer collaboration with other professional organisations and/or changing the membership criteria to join IFCC.
5. Based on the results of the same survey:
 - >85% of IFCC Full Members contain medical, scientific or pharmacy graduates who have received specialist postgraduate training in laboratory medicine

Article continued on page 4

This important finding opens up the possibility of shared knowledge and experience and possible harmonisation in the training of specialists in laboratory medicine.

Opportunities and Challenges for IFCC:

6. Recent feedback from the World Health Organisation (WHO) indicates that:
 - IFCC is perceived as an organisation that has expertise in clinical chemistry but not in other sub-specialties of laboratory medicine
 - WHO would welcome a more inclusive IFCC as a global partner in laboratory medicine
7. A number of international organisations would be interested in greater collaboration with IFCC if it can be more inclusive and better represent all sub-specialties of laboratory medicine. Examples of areas of international collaboration include method standardisation, engagement with international clinical organisations, informatics, and professional leadership development.
8. Several national professional organisations with specialists in laboratory medicine have shown interest in becoming Full Members of IFCC but cannot do so under current IFCC Statutes.
9. The European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) conducted a survey of its Members shortly after the launch of 'Shaping the Future of Laboratory Medicine'. The survey focused on the narrow area of IFCC Membership and the immediate majority view was to resist change. The IFCC EB is aware that a number of European Members have now engaged actively in the wider debate looking at national as well international interests. IFCC trusts that all Members will use the year long consultation to consider this important topic in depth.
10. Feedback from IFCC Members indicates acceptance of the need for progress in the organisation and delivery of laboratory medicine services. The specific 'sticking point' as far as reform of IFCC is concerned appears to be the voting rights of Full Members. The IFCC EB recognises this as a challenge but cannot accept that it transcends the importance of patient safety and clinical experience. To date IFCC Members have suggested three possible models for voting rights within an inclusive IFCC:
 - All IFCC Full Members have equal voting rights
 - Countries that have IFCC Full Members have equal voting rights. If there is more than one IFCC Full

Member per country the vote of that country will be divided:

- Equally amongst the constituent IFCC Full Members
- In proportion to the relative size of the constituent IFCC Full Members

IFCC is keen to hear from its existing Full Members of other possible models for voting rights.

Ultimately, the decision will be taken by a ballot of existing IFCC Full Members.

The Next Six Months:

11. In the six months that remain before the IFCC Council Meeting the IFCC EB invites its Full, Affiliate and Corporate Members to:
 - Conduct a detailed discussion about the future of laboratory medicine as it affects their society/country or company.
 - Share this discussion with other IFCC Members as appropriate
 - Enter into dialogue with IFCC (president@ifcc.org) following that discussion. This may include requests for clarification and/or feedback of plans or actions
 - Ensure that the representative of the IFCC Member who attends the Council Meeting is well briefed on the consensus views of the Member society or company
12. IFCC will shortly issue a draft agenda for the Council Meeting and the ensuing debate. IFCC Members will be invited to comment on this agenda. IFCC will also prepare and issue a final 'question and answer' document at the end of March 2014. Therefore, all questions and points for clarification should be submitted by **Thursday 19 March 2014**.

Epilogue:

The introduction of change is challenging at any level, and especially at international level. There are great opportunities for IFCC Members and for IFCC if we can embrace the changing world of laboratory medicine that we can all see. This is not the time for caution or for self interest – the patient deserves better. The following two 'US Presidential' quotations about change are worthy of reflection:

- *"Change is the law of life and those who look only to the past or present are certain to miss the future"*
– John F. Kennedy
- *"Change will not come if we wait for some other person or some other time. We are the ones we've been waiting for. We are the change that we seek"*
– Barack Obama

4th "ACBI-IFCC Task Force for Young Scientists" Educational Symposium
At 40th ACBI CONFERENCE, 5th Dec 2013, Delhi, India
Theme: Promising Pathways for Young Scientists-Today & Tomorrow

IFCC-Task Force Young Scientists (IFCC-TF YS) and Association of Clinical Biochemists of India (ACBI) organised the 4th Educational Session at Annual ACBI Conference (ACBICON) 2013 held in Delhi on 5 Dec. 2013.

This symposium was aimed at creating awareness about the new changing environment of medical laboratories and the role of laboratory scientists in the field of research and industry. The event was successfully conducted and attended by more than 100 delegates from across the country to learn about the emerging trends in Laboratory Medicine and the current and future developments related to technological advancements and testing profile. It helped to describe the role of research training to improve research services. It was held at the National Agriculture Science Centre (NASC) Complex, Pusa, Delhi. The conference was organised by the Vardhaman Mahavir Medical College & Safdarjung Hospital in association with ACBI Delhi Chapter under the leadership of **Dr. Jayashree Bhattacharjee**, Principal, VMMC & Organising Secretary ACBICON-2013, Delhi.

Devoted to prepare young scientists, IFCC-TF YS was built in 2010 with the objectives of Networking, Training, Participation and Multidisciplinary exchanges of different fields & different ideas. Three workshops in a row, have been conducted in India with the collaborative efforts of ACBI & IFCC since 2010. The first IFCC-TF YS workshop was organized in ACBICON-2010, 12Dec 2010 in Mumbai under the theme of "Mapping the Future of Laboratory Scientists" and stressed good Lab practice and Accreditation. The second workshop was organised at ACBICON-2011, 3Dec2011 in Gwalior and had the theme "Thinking The Unthinkable" and stressed various job opportunities present in the lab industry and other health related sectors. The third workshop was organised at ACBICON-2012, on December 11th in Ranchi under the theme of



by **Dr. Pradeep Kumar Dabla**

National Representative IFCC-TF YS National Representative IFCC-TF YS

Assistant Professor & Head Department of Biochemistry Lab Incharge

Chacha Nehru Bal Chikitsalya Associated to Maulana Azad Medical College Govt. Of NCT of Delhi, India.

"Clinical Chemistry to Clinical Laboratory Science" to embrace new technologies & learn the challenges related to laboratory management.

The opening ceremony was initiated by **Dr. Pradeep Kumar Dabla**, Member Core Committee IFCC-TF YS & Convener session. He gave a brief note about the objectives of Task Force & previous sessions organised at annual ACBI Conferences, India & worldwide throughout the year 2013. He welcomed delegates & senior members of ACBI, IFCC & WASPaLM fraternity on behalf of **Dr. Gabriel Ko**, Chairperson, IFCC-TF YS. **Dr. Abhay Pratap**, President ACBI welcomed & addressed the young scientists for upcoming activities.

The first session was chaired by **Dr. Praveen Sharma**, Past President-ACBI, Chief Editor-IJCB & Chair Communication Committee-APFCB. **Dr. Bernard Gouget**, Treasurer-IFCC opened the talk by briefing the technological development of Laboratory Medicine and opened new avenues. He explained how the rapid progress of science and technology is improving the expertise and professionalism of laboratory medicine specialists. He advised on joining forces and working together outside our national borders to have access to this knowledge and to maximize the influence of laboratory results on patient welfare. **Dr. Michael Oellerich**, Director Europe WASPaLM described the advantage of Tandem Mass Spectrometry for monitoring specific analytes such as immunosuppressants, and

Article continued on pages 6-7



From Left to Right:

1. **Dr. Pradeep Kumar Dabla**, Member Core Committee IFCC-TF YS & Convener ACBI-IFCC TF YS Symposium
Assistant Professor & Head Department of Biochemistry Laboratory Incharge, Chacha Nehru Bal Chikitsalya
Pediatric Superspeciality Hospital (Associated to Maulana Azad Medical College, Delhi)
Geeta Colony, Delhi-110031, India
2. **Dr. Pankaj Sharma**, Head Quality Control & Biophysics, Dr. Lal PathLabs Pvt Ltd, India
3. **Dr. Bernard Gouget**, Treasurer- IFCC
Assistant Professor, University Hospital, Paris Descartes
Counsellor for Public Health, Fédération Hospitalière de France
4. **Dr. Michael Oellerich**, Director Europe WASPaLM
Lower Saxony Distinguished Professor, Clinical Chemistry, George-August-University, University Medical Center
Göttingen, Department of Clinical Chemistry, D-37099 Göttingen, Germany
5. **Dr. Praveen Sharma**, Past President-ACBI, Chief Editor- IJCB, Chair Communication Committee- APFCB
Professor & Head, Department of Biochemistry, AIIMS, Jodhpur
6. **Prof. Howard Morris**, Vice President- IFCC
Division of Health Science, Health Sciences Divisional Office, City East Campus, Australia
7. **Dr. MVR Reddy**, EB-ACBI, Editor-Newsletter ACBI
Professor & Head of Department of Biochemistry & JB Tropical Disease Research Centre
Mahatma Gandhi Institute of Medical Sciences, Sevagram - 442102, Maharashtra, India

antiretroviral drugs with automated Immunoassays as a leading technology for routine determinations. He explained the role of proteome analysis by mass spectrometry as a tool for discovery of biomarkers. Emphasizing lab professionals as being central to safe & effective patient care, he emphasised raising the profile of laboratory medicine as an attractive career choice.

Dr. Pradeep Kumar Dabla, Assistant Prof. Biochemistry & Lab Incharge, CNBC, Pediatric Superspeciality Hospital, Delhi said “children are not little adults, so we need to have unique approach for pediatric lab testing” and described how pediatric patients are different from adults both in physiological & pathological state. He advocated total automated instrumentation and the need of special instrument designs to handle smaller pediatric sample volumes & tubes. He also spoke of the need to perform more correlative laboratory studies based on specific age and diagnostic subsets of children.

The second session was chaired by **Dr. Howard Morris**, Vice-President IFCC. **Dr. MVR Reddy**, EB-ACBI, Web Editor-APFCB News, Prof. & Head Biochemistry, MGIMS Sevagram initiated the session on a promising note for research environment and hopes for young scientists. He explained the various career options for budding medical biochemists and why to choose a research as a career with detailed

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insight. He summarised the skills needed for research, raising research profile and opportunities in India & abroad. **Dr. Pankaj Sharma**, Head Quality Control & Biophysics, Dr. Lal Path Labs Pvt Ltd, India explained the point of view of industry as a career option for young scientists. He said “the world has become a local market. Industry is facing domestic as well as international competition where distance

is dead. He gave real time data for the booming healthcare Industry and stressed the need for the “Techno Commercial Scientist” with the technical knowledge & business skills. He explained the concept of Right Place at the Right Time in view of industry.

The session was ended by Dr. Pradeep Kumar Dabla with a vote of thanks and souvenir distribution by senior members of ACBI, IFCC & WASPaLM fraternity. To conclude, this session provided a unique platform to the healthcare professionals to exchange ideas and to build stronger bridges between our professional societies. The Laboratory Medicine contribution has become essential to our healthcare services, as it not only has an impact on clinical outcomes but also quality, satisfaction and cost.

For further information please contact:

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FUJIREBIO Europe



FUJIREBIO

is recognized as the world-wide leader in oncology for both routine and novel markers and has a strong

Fujirebio is a leading international healthcare company with a strong focus on high quality in vitro diagnostics testing solutions. Founded over 60 years ago, the company

reputation in Japan within infectious disease testing in hospitals, clinic labs and blood banks. Over the last 20 years Fujirebio has been successfully marketing automated immunoassay testing solutions and has, under the name Innogenetics (now Fujerebio Europe), pioneered the field of molecular diagnostics and multiparameter testing. It is today among the world-leaders in strip-based diagnostics solutions. Website: www.fujirebio.europe.com

NEWS FROM REGIONAL FEDERATIONS AND MEMBER SOCIETIES



SERBIA



by Dr. Snežana Jovičić

Society of Medical Biochemists of Serbia

Liaison Member of the IFCC eNewsletter Working Group

Nine years ago, EFLM appointed the Society of Medical Biochemists of Serbia as host of educational symposium for clinical chemists of the Balkan region. This year's, 9th EFLM Symposium for Balkan Region entitled "Integrative Algorithms in Patient Focused Laboratory Medicine" was organized under the auspices of the IFCC, Balkan Clinical Laboratory Federation, Ministry of Education, Science and Technological Development of Serbia, and Ministry of Health of Republic of Serbia.

The two-day symposium was held from October 3rd to 5th as part of the EFLM Committee of Education and Training and EFLM Working Group on Congress and Postgraduate Education activity in 2013.

The first section was dedicated to the introduction to molecular-genetic diagnostics and molecular genetic markers, as a base for personalized medicine, presented by two leading Serbian scientists in this field – prof. Ivana Novaković (Institute of Human Genetics of Belgrade's University School of Medicine, Serbia) and prof. Sonja Pavlović (Institute of Molecular Genetics and Genetic Engineering of University of Belgrade, Serbia). Afterwards, we had the honour to hear about the incorporation of molecular diagnostics in clinical laboratories and quality assurance in molecular biomedicine and life sciences from the two leading experts in these fields, prof. Mario Pazzagli (Department of Clinical Physiopathology, University of Florence, Italy) and prof. Michael Neumaier (Institute for Clinical Chemistry, Medical Faculty Mannheim of University of Heidelberg, Germany).

The Second section was dedicated to patient-focused management of thrombophilia. This complex topic was opened with the lecture about the molecular basis of thrombophilia, presented by Dr. Valentina Djordjević (Institute of Molecular Genetics and Genetic Engineering, University of Belgrade, Serbia). The talk about the laboratory investigation of thrombophilia followed through with the comprehensive presentation of Dr. Sandra

Margetić (Department of Laboratory Haematology and Coagulation, University Hospital Center, Zagreb, Croatia). The section was closed with the presentation of principles of the integrative approach to patients with thrombophilia,

when Dr. Gorana Matić from the Department of Haematology, Haemostasis, and Prevention of Thrombosis (Laboratory Medicine Center, Clinical Center of Vojvodina, Novi Sad, Serbia), presented their experiences in this field.

Section three was dedicated to the detection of molecular defects in the field of endocrinology. The lecturers from the Clinic of Endocrinology, Diabetes and Metabolic Diseases of Clinical Center of Serbia and the University of Belgrade's School of Medicine brought us closer to understanding the application of molecular diagnostics in the management of endocrine tumors. We had the privilege to listen about integrative protocols in evaluation of multiple endocrine neoplasia from the distinguished professor Svetozar Damjanović, and Dr. Dragana Miljić who described molecular defects in the pathogenesis of pituitary tumors. The role of pharmacogenetics in the treatment of diabetes

9th EFLM SYMPOSIUM FOR BALKAN REGION "Integrative Algorithms in Patient-Focused Laboratory Medicine"

was elaborated in the presentation of the esteemed professor Elizabeta Topić, Chair of the EFLM Committee of Education and Training, and professor at the Faculty of Pharmacy and Biochemistry of University of Zagreb, Croatia. The section closed with the lecture about molecular genetics and molecular cytogenetics in the evaluation of congenital heart defects, presented by Dr. Goran Čturilo from the Department of Clinical Genetics, University Children's Hospital of the University of Belgrade's School of Medicine, Serbia.

The following section, dedicated to pharmacogenomics, was opened with the introduction by the distinguished

professor Gerard Siest, from the research unit "Cardiovascular Genetics" of the Nancy University of Lorraine's Faculty of Pharmacy, France, with the emphasis on its future evolution and the role of the European Society of Pharmacogenomics and Theranostics (ESPT) in it. Professor Irena Mlinarič-Raščan from the University of Ljubljana's Faculty of Pharmacy, Slovenia, talked about the pharmacogenomics of thiopurine S-methyltransferase and presented her work in this field. The section was concluded with the lecture about pharmacogenomics of drugs for cardiovascular system, presented by Dr. Sanja Stanković (Center for Medical Biochemistry, Clinical Center of Serbia).



Members of the 9th EFLM Symposium for Balkan Region Organizing and Scientific Committee with lecturers
From left to right:
Dr. Sandra Margetic, Dr. Andjelo Beletic, Prof. Mario Pazzagli, Prof. Elizabeta Topic, Prof. Nada Majkic-Singh, Prof. Ksenija Fumic, Prof. Sonja Pavlovic, Dr. Zorica Sumarac, Prof. Svetlana Ignjatovic

The Symposium's closing section was dedicated to rare diseases. Professor Ksenija Fumić from Clinical Department of Laboratory Diagnostics of Medical Center of Zagreb and University of Zagreb's Faculty of Pharmacy and Biochemistry, Croatia, in her comprehensive lecture opened the section and presented integrative algorithms in the diagnosis of lysosomal storage diseases. The talk about molecular basis, clinical presentation, therapeutic options and an integrative approach in the diagnosis of alpha-1-antitrypsin deficiency was presented jointly, from the aspect of both the laboratory and clinical practice professional, by Dr. Andjelo Beletić, from Center for Medical Biochemistry, and Dr. Aleksandra Dudvarski-Ilić, from Clinic of Pulmology of Clinical Center of Serbia. Dr. Maja Stojiljković-Petrović,

from the Laboratory for Molecular Haematology of University of Belgrade's Institute of Molecular Genetics and Genetic Engineering, concluded the section with her presentation of molecular characteristics, phenotypic diversity and genotype-estimated therapeutic responsiveness of Serbian patients with phenylketonuria.

All sections were extremely well attended, and about 250 registered participants and students attended the Symposium. The lectures instigated interesting discussions which completed the overall impression that once again the Society of Medical Biochemists of Serbia organized a successful meeting according to the EFLM standards.



9th EFLM Symposium for Balkan Region

Students and graduates of University of Belgrade School of Pharmacy with their professors: Prof. Nada Majkic-Singh and Prof. Svetlana Ignjatovic, *President of SMBS*: Dr. Zorica Sumarac, *their liaison with SMBS*: Dr. Andjelo Beletic, and *Director of Chamber of Biochemists*: Dr. Valibor Canic

Training Report

PMEP LABORATORY QUALITY MANAGEMENT PROGRAMME

by Raphael Chileshe

*Division of Chemical Pathology,
Stellenbosch University, South Africa*

➔ Abbreviations:

IFCC = International Federation for Clinical Chemistry
IHI = Institute of Healthcare Improvement
NHLS = National Health Laboratory Service of South Africa
WHO = World Health Organization
SLIPTA = Stepwise Laboratory Improvement Process Towards Accreditation
SLMTA = Strengthening Laboratory Management Towards accreditation
APHL = Association of Public Health Laboratories
ASLM = African Society for Laboratory Medicine
BMSZ = Biomedical Society of Zambia

➔ Introduction

At the 2013 Laboratory Medicine Congress pre-conference course in Laboratory Quality Management, Professors Jocelyn Hicks and David Young of IFCC outlined programs supported by IFCC as follows:

- Professional Management Exchange Program (PMEP) – Laboratory Quality Management (Abbott Laboratories).
- Professional Scientific Exchange Program (PSEP) – training in managing Internal and external Quality Control, Equipment and Method Validation, health facility support in enrolling in IQC/EQC programs, (Abbott, RANDOX, Biorad).
- Roche Travel Fellowships for young scientists to American Society Congress.
- Visiting Lecturer program for a minimum of two (2) talks.
- Laboratory Management mentoring program – helps in organizing optimum usage of existing resources before acquiring new ones – available via email and Skype.
- Many more opportunities found on the IFCC website: ifcc@ifcc.org

Candidates from Kenya and Zambia were sponsored under the PMEP program by IFCC to participate in the Laboratory Quality Management pathology module hosted by Stellenbosch University at Tygerberg Academic Laboratory,

Cape Town, South Africa. IFCC sponsors candidates supported by local professional laboratory societies, management of candidate's health facility and ministries responsible for health. My candidature was duly supported by the Head of Pathology and Microbiology and Senior Medical Superintendent of my work station the University Teaching Hospital as well as the Permanent Secretary of the Ministry of Health of the Republic of Zambia.

Professor T.S. Pillay, Head of the Department of Chemical Pathology, University of Pretoria and NHLS expressed his commitment and availability to facilitate cooperation between South African NHLS laboratory facilities and those from other African countries aspiring to achieve accreditation to ISO 15189.

The conference Chairman and host, Professor Rajiv Erasmus, Head of the Division of Chemical Pathology at Stellenbosch University and Tygerberg Academic Laboratory introduced the pathology module in Laboratory Quality Management as one of the few if not first, such training modules in Africa structured to impart leadership skills, research, quality improvement skills and promote networking among students from different countries.

Tygerberg Academic Laboratory is a model South African National Accreditation Service (SANAS) accredited tertiary referral laboratory facility of the National Health Laboratory Service (NHLS) in Cape Town, South Africa. By hosting IFCC-sponsored programs, it is assisting health institutions in Africa to acquire and spread local leadership in implementing quality improvement programs towards achieving accreditation. Accreditation to ISO 15189 standard particular requirement for medical laboratories is a global proof of competence and quality that a medical laboratory's performance satisfies the standard's minimum requirements. An accredited laboratory easily attracts collaboration and capital resources required for clinical, training and research applications. By breeding leadership in managing quality, the PMEP Laboratory Quality Management program is complementing other partner supported training modules such as WHO SLIPTA, APHL SLMTA.

Like other public laboratory facilities in Africa, the department of pathology and Microbiology department of the University Teaching Hospital in Lusaka have been pursuing laboratory accreditation for the last two years with difficulties in acquiring resources and programs for staff training, sustaining enrollment and obtaining materials for IQC/EQA programs, especially in Chemical pathology.

As a country candidate for Zambia, my participation in the IFCC-sponsored PMP laboratory quality management program is now expected to facilitate the Department of Pathology and Microbiology of the University Teaching Hospital to access further support to global skills training programs, sustainable IQC/EQA enrollment support especially in Chemical, anatomical, cytological and Haematological pathology as well as open up facility networking opportunities with global leaders in laboratory medicine. IT module - not available.

➔ Program Activities Attended

• Total Lectures in Course Module = 29; Lectures attended = 28:

1. Leadership skills for effective laboratory management
2. Planning and Instituting new tests
3. Total quality management
4. What Constitutes a good laboratory
5. Clinical governance
6. Basic Labor law and human resource plan
7. Performance Management and human resource plan
8. Clinical audits and quality
9. Conflict management
10. Good laboratory practice: Safety and infection control
11. Principles of accreditation
12. Strategic planning and goal setting for laboratory professionals
13. Procurement process and supply chain
14. Business Plan
15. Documents and Records: Use and maintenance; finding the information when you need it
16. Basic principles of internal and external quality control
17. Managing pre-analytical factors and prevention of errors
18. Demand management
19. Lean management and quality
20. Managing a point of care testing program
21. Laboratory organization, laboratory direction and lay out

22. Specificity, Sensitivity, predictive value, LR
23. Budget
24. Method validation
25. Uncertainty of measurement and biological variation
26. Harmonization and standardization
27. Quality indicators and tool kit
28. Laboratory Ethics

• Research Project

Candidates from Kenya and Zambia conducted a collaborative research project on the impact of placing a quality manager in the pre-analytic section of a tertiary reference laboratory in South Africa. See attached project synopsis in the appendix section of this report.

• Assessments and results obtained

1. Theory: MCQ = 72%
2. Short Essays = 53%
3. WHO SLIPTA lecture and practical audit – Microbiology department = 80%

• CPD Presentations

1. Green Tea and Coffee
2. IQC meeting
3. Moral of the Story – Ethics
4. Vitamin B12
5. Automated Pre-analytic modular workstation – Siemens

• Discussion Groups – students networked and held revision sessions after working hours.

• Field Visits

Guided tour through Pathcare Reference Laboratory facilitated by Prof. Rajiv Erasmus, Head – Division of Chemical Pathology, Stellenbosch University, Tygerberg Academic Laboratory.

• Others:

- Orientation to Safety requirements and accreditation requirements for safety audit by the safety officer.
- Orientation to the pneumatic tube specimen transport system by the Tygerberg Hospital Head of Support Services.
 - Orientation to Disa Laboratory information system by the Head of Information Technology;
 - Orientation to quality management system by the Quality Coordinator.

• Conferences

- ❑ Registered and attended the IFCC-sponsored 2013 Laboratory medicine conference, with one presenting an oral poster.
- ❑ Pre-conference Course in Laboratory Quality Management at the Two Oceans Aquarium.
- ❑ Various main conference modules.

• Social Interaction:

Students from Zambia, Kenya and Nigeria collaborated when taking social and shopping outings. Places visited included the red bus tour from the aquarium at water front via city historical sites, Kirstenbosch gardens, Groot Constantia Winery where they attended a wine brewing and testing lesson; the world of birds ending with Victoria Warf hotel steak house.

The IFCC-sponsored PMEP students from Zambia, Kenya, Nigeria joined by two other invited registrars from Sudan and Nigeria were hosted for a farewell dinner at the home of the International Students Coordinator Stellenbosch University Faculty of Medicine and Health Sciences towards the end of the program. The Faculty of Medicine and Health Sciences further handed out gifts of faculty regalia to IFCC-sponsored students at end of program.

The Division of Chemical Pathology hosted a final send off tea party at which all laboratory units were represented. Student achievements and planned programs for collaborative cooperation were highlighted by Professor Rajiv Erasmus in his opening and closing remarks while each student received a farewell gift pack containing a 2014 calendar and a South African literary souvenir.

➔ Take home notes:

- Grooming and spreading knowledge and leadership skills in laboratory management and quality improvement should be based on an all inclusive structured well maintained continuous professional development program. Professional staff of accreditation candidate health facilities needs to harmonize baseline quality knowledge among staff through regular structured continuous professional education programs such as IFCC supported programs and IHI programs.
- The strength of a laboratory depends on visionary and visible leadership. Visionary leadership plans strategically and crafts its mission from embraced diverse staff opinions. Visibility of laboratory is achieved through engagement with customers, continuous professional development of

staff and publications of research results.

- Specimen transport by pneumatic tube, interfaced Laboratory and hospital information systems are the most sustainable tools for controlling pre and post analytic factors affecting laboratory turnaround time and enhancing effective data collection across the total testing process of the laboratory quality system. The straight line “fish bone” branching layout of buildings infrastructure of the university Teaching hospital greatly favors easy installation of a pneumatic tube specimen transport system which management need to consider. The Pneumatic tube system of Tygerberg hospital has been in operation for over forty years with minimal maintenance costs and very rare breakdowns.

- IQC and EQC programs are vital for all major processes and procedures. All staff must be trained and assessed for competence in handling, trouble shooting, documenting and managing IQC and EQC of technical procedures in their area of operation. IFCC is global promoter of quality improvement knowledge as well as a vital link to equipment manufacturers, EQA and IQC programs and materials. Successful accredited laboratories like Tygerberg Academic laboratory maintain close collaboration with IFCC.

- Controlled quality system documentation, regular audits, prompt root cause analysis, detection, correction of nonconformities and taking documented preventive process change measures are key attributes of continual improvement. Accreditation candidate laboratories such as the University Teaching Hospital should seize the collaboration opportunities offered by Stellenbosch University, NHLS and IFCC.

- Nonconformance detection, correction and prevention, error reduction and overall continual improvement should be based on implementing small measurable process based changes that can be replicated on large scale when proven successful. The quality system of Tygerberg Academic Laboratory is maintained by trained quality coordinator, laboratory service manager, auditors and mentors. Accreditation candidate laboratories need to invest in training of local quality improvement expertise in order to achieve and sustain accreditation.

➔ Conclusion

The PMEP Laboratory Quality Management program was well facilitated, imparted great leadership and quality improvement skills to participant country candidates, well facilitated by a model accredited systems based host laboratory in a socially sound and academically serene environment.

➤ Acknowledgements

- **Prof. G. Beastall**; President; International Federation for Clinical Chemistry (IFCC) – for sponsorship ifcc@ifcc.org
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International Agreement to Improve Quality in Laboratory Medicine Nomenclature, Properties and Units (NPU) Terminology



The undernoted three organisations are pleased to announce the signing on 7 January 2014 of a Memorandum of Understanding (MoU) and Agreement regarding NPU terminology:

- International Federation of Clinical Chemistry & Laboratory Medicine (IFCC)
- International Union of Pure & Applied Chemistry (IUPAC)
- Danish National e-Health Authority (DeHA)

In laboratory medicine one of the most basic, but important, challenges is to ensure that we have a common understanding of what is being measured in what biological system and of how the results will be expressed and in what units. To address this issue the three partner organisations have developed, tested and refined an intuitive and comprehensive NPU terminology. The MoU and Agreement formalises the achievements to date and provides a template for greater international promotion of NPU terminology as an aid to harmonised practice and better patient safety.

At the centre of the IFCC-IUPAC project are the NPU codes and definitions which have been in widespread use in electronic health communication for more than a decade. The NPU system involves the application of the syntax, semantic rules and format of NPU terminology for coded kinds-of property across clinical laboratory sciences.

In welcoming the MoU and Agreement IFCC President Graham Beastall said: "Laboratory Medicine results

influence a high percentage of clinical decisions. In an increasingly global health community it is vital to have harmonised terminology for these results. We encourage the widespread adoption and application of NPU terminology and use of the NPU database. We will work with other international organisations to ensure that NPU terminology is aligned with international healthcare terminology."

A user's guide to NPU terminology and the NPU database has been published in both chemistry and clinical chemistry literature. This guide provides a clear explanation of the system and of its operation. Access to the NPU terminology in English is available from the Danish Release Centre under the National e-Health Authority (www.labterm.dk) and also from the IFCC website (www.ifcc.org).

Persons wishing to know more about the NPU terminology should contact:

- Ulla Magdal Petersen, Scientific lead for the NPU database at UMP@ssi.dk
- Robert Flatman, Chair of the joint Committee on NPU robert_flatman@snp.com.au

References:

- Petersen UM, Dybkaer, R, Olesen H. Properties and units in the clinical laboratory sciences. Part XXIII. The NPU terminology, principles, and implementation: A user's guide. *Pure Appl Chem* 2012; 84: 137-165
Clin Chem Lab Med 2012; 50: 35-50**

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 22-26	WorldLab 2014 - 22nd International Congress of Clinical Chemistry and Laboratory Medicine	Istanbul, TR
2015 - Jun 21-25	EuroMedLab 2015 - 21th-IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine	Paris, FR
2015 - Oct 29-31	COLABIOCLI 2015 - XXII Congreso Latinoamericano de Bioquímica Clínica	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

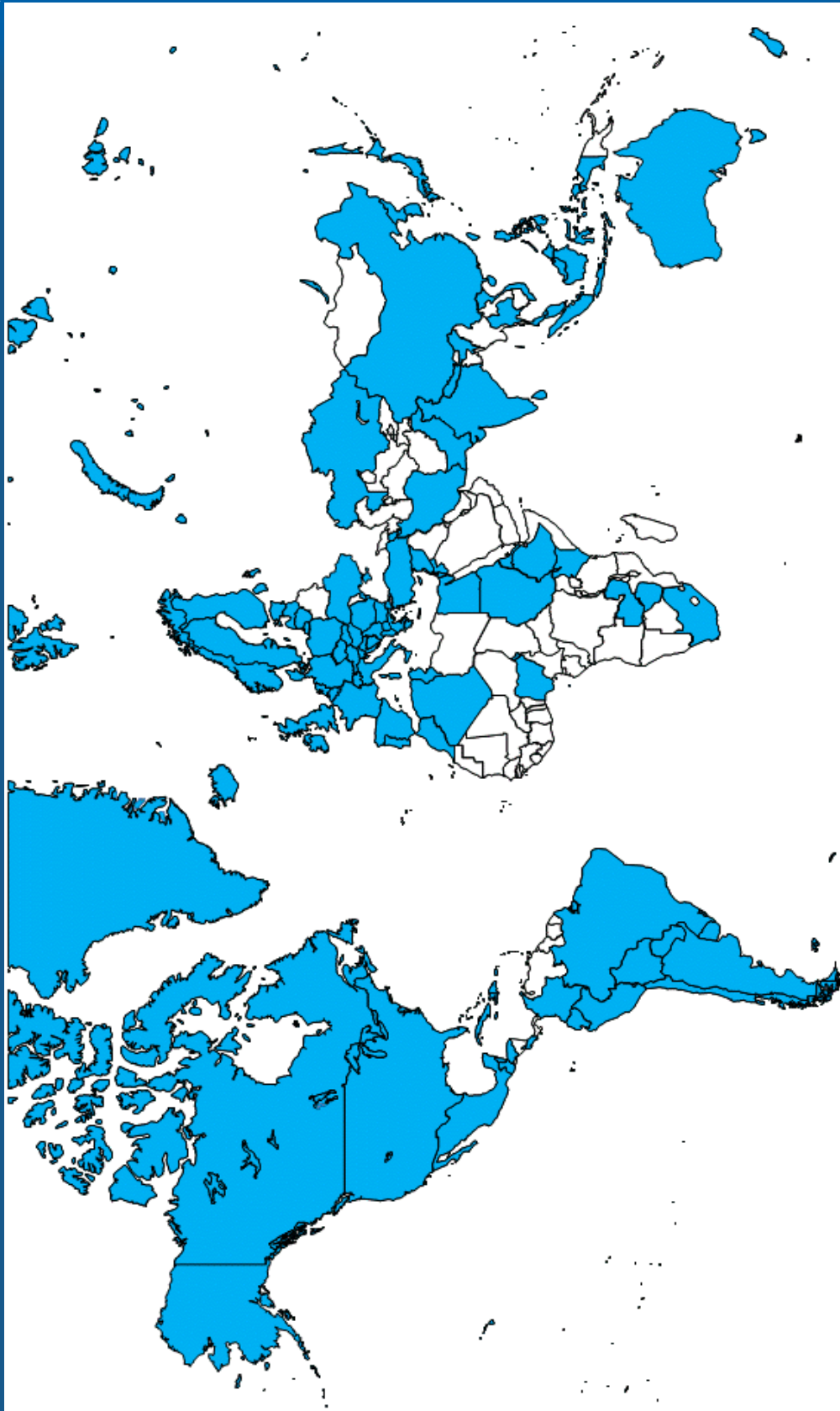
Calendar of events with IFCC auspices

2014 - Mar 21-22	3rd International Conference on Vitamin D Deficiency and Its Clinical Implications	Abu Dhabi, UAE
2014 - May 2-4	XII Ecuadorian Congress and VIII Clinical Biochemistry International Congress	Guayaquil, EC
2014 - May 26-30	Diagnostic Hands on Training Molecular Diagnostic Workshop	Harare, ZW
2014 - May 28-31	8th Conference of Romanian Association of Medical Laboratories (RAML)	Sibiu, RO
2014 - Jun 4-7	21st Congress of the Romanian Society of Laboratory Medicine	Sibiu, RO
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
2014 - Sept 9-13	10th EFLM Symposium for Balkan Region under the title Pediatric 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 18-20	XII Baltic Congress in Laboratory Medicine (BALM)	Riga, LV
2014 - Sep 24-27	7th Santorini Conference "Systems Medicine Personalized Health and Therapy"	Santorini, GR
2014 - Oct 23-28	360-degree Lysosome: from structure to genomics, from function to disease	Izmir, TU
2014 - Nov 24-25	1st EFLM Strategic Conference "Defining analytical performance goals - 15 years after the Stockholm Conference"	Milan, IT
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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	Zimbabwe (ZW)



Affiliate Members

- Brazil: Sociedade Brasileira de Patologia Clínica / Medicina Laboratorial (SBPC/ML)
- Eritrea: Eritrean Medical Laboratory Association
- India: Association of Medical Biochemists of India (AMBI)
- Mexico: Federación Nacional de Químicos Clínicos (CONAQUIC A.C.)
- Palestine: Palestinian Medical Technology Association (PALMTA)
- Philippines: Philippine Council for Quality Assurance in Clinical Laboratories (PCQACL)
- Romania: Romanian Association of Medical Laboratories (RAML)
- Russia: Regional Association for Clinical Laboratory Diagnosis, St. Petersburg
- Spain: Asociación Española de Farmacéuticos Analistas (AEFA)
- Ukraine: Association of Clinical Chemistry & Laboratory Medicine of Ukraine (ACCLMU)

Regional Federations

- Arab Federation of Clinical Biology (AFCB)
- African Federation of Clinical Chemistry (AFCC)
- Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)
- European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)
- Latin America Confederation of Clinical Biochemistry (COLABIOCLI)

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