

e-Newsletter



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



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In this issue

- EDITORIAL: PROGRESS WITH THE IFCC STRATEGIC PLAN Pages 3-4
- 2014 IFCC DISTINGUISHED AWARDS Page 5
- NEWS FROM REGIONAL FEDERATIONS AND NATIONAL ASSOCIATIONS
 - Hong Kong Society of Clinical Chemistry Office Bearers Updates 2014-15 Pages 7
 - Vietnam Pages 8-9
 - New Meetings Involving the APFCB Page 10
 - EFLM Executive Board for the term of office 2014-2015 Pages 11-12
 - EuroMedLab Focus 2014: Laboratory Medicine at the Clinical Interface Pages 13-15
 - EU Directive 2005/36/EC: A new horizon to working across the European community Page 16
 - The Meeting of General Body of Pakistan Phythopathological Society Page 17
 - Harmonisation Of Laboratory Testing In Australia And New Zealand Pages 18-19
 - IVAN BERKES Scientific Conference Page 20
 - NAPSer Zlatibor 2013 Page 21
 - STUDY BY THE IOF AND IFCC WG ON SBMA Pages 22-23
 - NEW IFCC CORPORATE MEMBERS: Page 24
 - DIATRON
 - SONIC HEALTHCARE EUROPE
- INTERNATIONAL AGREEMENT TO IMPROVE QUALITY IN LABORATORY MEDICINE
NPU TERMINOLOGY Page 25
- IFCC PSEP: SHIRIN TARBIAT Pages 26-28
- FORTHCOMING MEETINGS Pages 29-30
- EDITORIAL CASSETTE Page 32



Dr. Graham BEASTALL,
IFCC President

Introduction:

The IFCC Executive Board (EB) is responsible for the operation of IFCC in the three years between Council Meetings. Each new EB starts its term of office by agreeing a three year strategic plan, which is translated into specific actions

to be undertaken by EB during its three years. The strategic plan for each EB must accord with the overall aim and mission of IFCC. Once agreed the strategic plan is published in the IFCC Handbook and is available from the IFCC website: www.ifcc.org

The current EB agreed a strategic plan that has 26 specific action points spread across four topic areas (A-D). This plan and its actions are revisited at the start of every EB meeting. As the EB enters its final year and as it approaches the Council meeting in Istanbul in June it is appropriate to review progress with the current strategic plan. Each topic area will be considered separately.

Area A - Supporting our Membership:

Seven actions have been completed:

- Introduce electronic voting. This was used successfully to elect the members of the next EB
- Introduce and support the use of Survey Monkey for Members and IFCC units
- Conduct three surveys of Members each year to better understand their requirements of IFCC
- Develop new support materials to promote the value to developing countries of being a Member of IFCC
- Establish and promote a Register of Experts who may be contacted by IFCC Members

- Organise opportunities for EB to meet with Presidents of IFCC Regional Federations on an annual basis
- Improve the working relationship between IFCC and its Members in Latin America. A formal agreement (in both Spanish and English) has been signed

Three actions have commenced and will be ongoing into the future:

- Improve two-way communication between IFCC and its Members
- Develop, produce and promote distance learning opportunities for Members
- Develop materials to assist Members to understand and promote the contribution of laboratory medicine to healthcare

Area B - Broadening Our Horizons:

Four actions have been completed:

- Expand Corporate Membership of IFCC to include private and academic centres. Further expansion into companies that are active in genomics and health informatics is dependent on expanding the scope of IFCC Membership
- Increase collaboration between IFCC and international clinical organisations. This action should continue into the future
- Agree a work programme for the new Task Force for Point of Care Testing (TF-POCT). The TF-POCT is very active, will run a satellite meeting in Istanbul and has established links with other international POCT groups
- Ensure succession planning for the Task Force for Young Scientists (TF-YS). Currently, TF-YS is working on a plan to involve greater international collaboration amongst young scientists

Three actions have commenced and will continue during the rest of 2014:

- Stimulate a debate on the benefits of more inclusive laboratory medicine at national and

international level. The pamphlet entitled 'Shaping the Future of Laboratory Medicine' was launched in May 2013 as part of a year-long consultation with Members. This includes suggestions for opening up the Membership of IFCC, which will be debated at the IFCC Council meeting in Istanbul

- Identify, resource and deliver at least one new project each year in areas of laboratory medicine other than clinical chemistry. The approach adopted by IFCC is to collaborate with other international organisations
- Agree a work programme for the new Task Force on the Impact of Laboratory Medicine on Clinical Management and Outcomes (TF-ICO). The Task Force has completed its scoping project and is discussing future projects

Area C - Improving the Quality of Laboratory Medicine:

Three actions have been completed:

- Position the IFCC in relation to the AACC-led harmonisation project. IFCC is a strategic partner and will apply to lead individual method-related projects
- Establish at least one new project with the World Association of Societies of Pathology and Laboratory Medicine (WASPaLM). IFCC is collaborating with three other global organisations in laboratory medicine (WASPaLM, IFBLS and ASCP) to deliver the 'Labs Are Vital' programme www.labsarevital.com
- Strengthen links with the World Health Organisation (WHO)

Two actions have commenced and are ongoing:

- In conjunction with others develop a route to laboratory accreditation for developing countries. IFCC has co-ordinated its Developing Quality Competence in Laboratory Medicine (DQCML) programme and has undertaken specific projects in Africa. Links are being established to enable IFCC to direct its Members to established step-wise routes to laboratory accreditation

- Establish a project with the International Laboratory Accreditation Cooperation (ILAC). IFCC is working with ILAC to develop a more inclusive future for the Joint Committee for Traceability in Laboratory Medicine (JCTLM)

Area D - Improving the Effectiveness of IFCC:

Three action points have been completed:

- Review IFCC finances and identify at least one new income stream. IFCC expenses are closely monitored and matched to income streams. IFCC investments are closely monitored to deliver improved outcomes. IFCC will launch the IFCC Foundation for Emerging Nations at the Council meeting in Istanbul
- Benchmark the performance of IFCC against other established international federations that are active in science or medicine
- Agree a process for auditing the performance of IFCC in meeting the needs of Members

One action point is well under way and will be completed during 2014:

- Undertake and publish an horizon scanning project to assess how laboratory medicine will be organised in 2020 and beyond.

Conclusion:

The EB has made good progress with most of the action points in its strategic plan. Overall EB believes that IFCC and its Members are better informed and have an improved understanding of the global development of laboratory medicine and the role that IFCC is playing. The Regional Federations are more active and more questioning of IFCC priorities and programmes and this is a positive development. The Council meeting in Istanbul will have a substantive debate on the future of laboratory medicine and it is hoped that this will provide a range of ideas and suggestions, which can be picked up and incorporated into the next strategic plan by the next EB. All IFCC Members are invited to contribute to this debate.

Press Release: 2014 IFCC DISTINGUISHED AWARDS



Milan, 18th March 2014 - IFCC, the leading organization in the field of Clinical Chemistry and Laboratory Medicine worldwide, announced the names of the winners of the seven 2014 IFCC Distinguished Awards.



Dr. Matthew MCQUEEN, Department of Pathology and Molecular Medicine, McMaster University, Ontario, Canada, is the winner of the **2014 IFCC Distinguished Clinical Chemist Award**, sponsored by Beckman Coulter. This award recognizes specifically an individual who has made outstanding contributions to the science of Clinical Chemistry and Laboratory Medicine or the application of Clinical Chemistry to the understanding or the solution of medical problems.

Dr. Robert DUFOUR, Pathology and Laboratory Medicine Service, Veterans' Affairs Medical Center, Washington DC - US, is the winner of the **2014 IFCC Henry Wishinsky Award for Distinguished International Services**. This award, sponsored by Siemens, recognizes specifically an individual who has made unique contributions to the promotion and understanding of Clinical Chemistry and Laboratory Medicine throughout the world.

Dr. Carl BURTIS, Oak Ridge National Lab, Oak Ridge, TN - US, is the winner of the **2014 IFCC Award for Distinguished Contributions in Education**. This award, sponsored by Abbott Diagnostics, recognizes specifically an individual who has made extraordinary contributions in establishing and developing educational materials for the Clinical Chemistry discipline to improve training and educational programs worldwide or in a region.

Dr. Francis BARANY, Dept. of Microbiology & Immunology, Weill Cornell Medical College, New York -US, is the winner of the **2014 IFCC Award for Significant Contributions in Molecular Diagnostics**. This award, sponsored by Abbott Molecular, recognizes specifically an individual who has made unique contributions to the promotion and understanding of molecular biology and its applications in Clinical Chemistry and Laboratory Medicine worldwide.

Prof. Mario PLEBANI, Laboratory Medicine, Padua University, Padua, Italy, is the winner of the **2014 IFCC Distinguished Award for Laboratory Medicine and Patient Care**. This award, sponsored by Unilabs, recognizes specifically an individual who has made unique contributions in Laboratory Medicine, its

application in improving patient care, and having a worldwide impact in clinical medicine.

Dr. Gregory W. MILLER, Clinical Support Center, Virginia Commonwealth Univ. Medical Center, Richmond VA - US, is the winner of the **2014 IFCC-Robert Schaffer Award for Outstanding Achievements in the Development of Standards for Use in Laboratory Medicine**. This award, co-sponsored by NIST and CLSI, recognizes specifically an individual who has made outstanding and unique contributions to the advancement of reference methods and/or reference materials for laboratory medicine to facilitate improved quality of clinical diagnostics and therapies, which would in turn lead to reduced costs and improved patient care.

Dr. Geoffrey BAIRD, Department of Laboratory Medicine, University of Washington - US, is the winner of the **2014 IFCC Young Investigator Award, sponsored by IFCC**. This award recognizes and encourages the academic and professional development of a young investigator (under 40 years of age) who has demonstrated exceptional scientific achievements in Clinical Chemistry and Laboratory Medicine in his/her career.

Prof. Howard Morris, Chairman IFCC Awards Committee, said: *"We are delighted in electing these colleagues for the 2014 IFCC Awards. The Awards Committee had a very hard task selecting the Awardees among the excellent candidates that were submitted by the various National Societies and Institutions. It has been a privilege considering them and we are sure that the Awardees will inspire a new generation of clinician-scientists worldwide".*

The Awards will be officially announced on Sunday 22nd June during the Opening Ceremony of the 22nd IFCC International Congress in Clinical Chemistry and Laboratory Medicine, to be held in Istanbul from 22nd to 26th June 2014.

Together. Today and Tomorrow.



1994



2014



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NEWS FROM REGIONAL FEDERATIONS AND MEMBER SOCIETIES



HONG KONG

Hong Kong Society of Clinical Chemistry 2013

by Lydia Lit

The year 2013 began with the Society's Annual Scientific Meeting and Annual General Meeting held in January. Being the 30th Anniversary for the Society, the event was attended by over 200 members who enjoyed two exciting presentations on non-invasive prenatal diagnosis, and public health dimension of chemical pathology delivered by two veteran members – Prof. Rossa Chiu and Dr. Tony Mak.

Education activities for the year carried on with presentations by distinguished scientists: Prof. Ann Gronowski on laboratory testing during pregnancy in April; Prof. Chris Florkowski delivering two lectures on porphyria and vitamin D respectively in May; Dr. Alan McNeil on use and misuse of tumor markers in September; Dr James Nicols on laboratory QCs based on risk management in November; Dr. Peter Veraart on practical approach to QC rules and frequency in November as well. All these educational events were attended by over 150 members and guests.

In support of regional clinical biochemistry development, HKSCC sent a strong delegation to the 13th Asian Pacific

Congress of Clinical Biochemistry held in Bali, Indonesia in October. The effort was lead by Prof. Dennis Lo as a plenary speaker on non-invasive prenatal diagnosis and the hosting of an HKSCC Symposium in the Congress. Three distinguished members: Dr. CS Ho, Dr. Robert Cheung, and Dr. Doris Ching presented on clinical chemistry topics of diverse interests: steroid analysis by mass spectrometry, organization of trace element analytical service and emerging drugs of abuse.

Future educational and training events will continue in 2014: Society's Annual Scientific Meeting and Annual General Meeting held in January; Dr Michael Meisner on procalcitonin biochemistry & clinical diagnosis in February; Prof. Greg Miller on harmonization and traceability of results and Dr. Steve Wong on pharmacogenomics and pharmcometabolomics for transplant, pain management and toxicology in April. Further training on clinical cases interpretation will be scheduled in October.





VIETNAM

50th ANNIVERSARY MEETING AND SCIENTIFIC CONFERENCE OF THE VACB IN SEPTEMBER 2013

by Prof. Dr. Hoang Van Son, National representative of the VACB to the IFCC



Prof. Dr. Hoang Van Son, national representative of the VACB to the IFCC

2013 was the Jubilee Year of the Vietnam Association of Clinical Biochemist (VACB) with its 50th Anniversary of foundation. About 40 clinical biochemists gathered in the first Congress on June 1st 1963 at the Viet-Xo hospital in Hanoi. The VACB organized the Jubilee Meeting and Scientific Conference on 5-6 September 2013 in Hanoi with more than 400 participants from many provinces of Vietnam and international guests. The meeting celebrated the 50th Anniversary of the Foundation of the VACB (1963-2013) and the 90th birthday of the VACB first President Prof. Tran Thi An on the morning of 6 September. The Scientific Conference began on 5 September, and ended with a cheerful gala dinner on the evening of 6 September.

The participants welcomed the congratulatory speeches of Prof. Howard Morris, IFCC Vice-President, Prof. Sunil Sethi, APFCB Vice-President, and Prof. Geoffrey Kellerman of AACB. We were very pleased to receive lovely souvenirs of the IFCC, the

APFCB and the AACB. The Meeting honoured more than 10 senior and founding members, of 75-90 years, and congratulated the 90th birthday of Prof. Dr. Tran Thi An with flowers, and a very emotional, cheerful atmosphere!

The Scientific Conference with nearly 20 presentations was interesting as well. The audience highly appreciated the presentations of Prof. Dr. Howard Morris on *"Bone markers and their clinical application"*, of Prof. Dr. Sunil Sethi on *"Laboratory Informatics & Process control"*. Other interesting presentations of Vietnamese and foreign authors such as: *"Tumor markers of the gastrointestinal tract"* (Prof. Dr. Hoang Van Son), *"The organization of the Bach Mai Department of Biochemistry and the implementation of ISO 15189"* (Prof. Dr. Pham Thien Ngoc), *"Molecular Biology in Medicine"* (Prof. Dr. Le Quang Huan), *"Methods of detection of EGFR mutations"* (Dr. Pham Hung Van) received much attention of the participants.

Senior and young colleagues, gathering side by side, gathering in an emotional and pleasant, historical atmosphere was an impressive image of this Jubilee Meeting and Scientific Conference.



International Guests



Article continued on next page



VACB Senior founding members



90th Anniversary of Prof. Dr. Tran Thi An, VACB first President



Prof. Dr. Pham Manh Hung,
President of the Vietnam General Medical Association



Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine

NEW MEETINGS INVOLVING THE APFCB



by Joseph Lopez,

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

The year 2013 saw the APFCB becoming involved with two new meetings in the Asia-Pacific region.

First APFCB Speciality Meeting

Following the recommendation contained in the APFCB's 2010 Strategic Plan for scientific meetings to be held in the region between the triennial APFCB Congresses, the first APFCB Speciality Meeting was held in Hanoi, Vietnam, over one and a half days from 18-19 March 2013. It was organised jointly by the APFCB Congresses and Conferences Committee in conjunction with the Committee on Laboratory Management in conjunction with BD Diagnostics, the sponsor. The theme of this meeting was "Quality Improvement in Laboratory Medicine through Pre-analytical Process control". There were approximately 80 participants most of whom were from Vietnam, with small numbers from Indonesia, the Philippines and Thailand. There was live translation of the proceedings from English to Vietnamese for the benefit of those for whom English was not their first language. The APFCB wishes to place record it thanks BD for its sponsorship and excellent organisation of this meeting.

The topics covered included pre-analytical issues involving clinical chemistry, microbiology, haematology and transfusion sciences; paper versus electronic ordering of tests; and, the prevention, detection, reporting and management of pre-analytical errors. The second day had an interactive session which where participants were asked to respond to cases studies involving pre-analytical matters.

Turning Science Into Caring (TSIC)

Abbot has held the TSIC meetings in the Asia-Pacific region over the past few years. More recently these meetings have been held in conjunction with the IFCC. Purpose of these meetings is to bring laboratory and other healthcare professionals together to exchange information on trends in laboratory medicine.

Following a discussion with a representative from Abbott at the EuroMedLab in Milan in May 2013, the APFCB was invited to become a partner of the TSIC meetings. Agreement on APFCB's participation subsequently signed with Abbott, in August. The agreement calls for the APFCB, *inter alia*, to contribute to the planning of the scientific programme of future TSIC meetings.

The 6th TSIC 2013 was held in Taipei on the 23rd and 24th September, 2013. The C-CC Chair represented the APFCB at the opening. The meeting consisted of 6 plenaries and 4 workshops with the following themes:

Plenaries

- The Global Diabetes Epidemic: diagnosis, monitoring and disease management
- The Evolution of Cardiovascular Disease, from Definition to Patient Care
- Hepatitis Prevention, Screening, Diagnosis and Patient Care
- Revolutionizing Laboratory Medicine with Hospital and Laboratory Information Systems (HIS/LIS)
- The Global Harmonization Initiative
- Clinical and Health Economic Implications of HCV Viral Load Precision in an era of New Direct Acting Antivirals

Workshops

- Implementation of hsTnI in Acute Setting, Cardiology and Laboratory Medicine
- Three Pillars of Patient Care: Universal Reference Intervals, Assay Standardization, Assay Quality
- Impact of Laboratory Medicine on Patient Outcomes and Management
- Current Trends in Infectious Diseases Diagnosis and Patient

As the agreement with Abbott was signed after all preparations for Taipei meeting had been made the APFCB could not contribute to the scientific programme but will be expected to do so for future meetings.



European Federation of Clinical Chemistry and Laboratory Medicine

EFLM represents IFCC in Europe

The EFLM Executive Board for the term of office 2014-2015

by **Mauro Panteghini**, EFLM President



President, IT **Mauro Panteghini**



Past President, UK **Ian Watson**



President Elect, NO **Sverre Sandberg**



Secretary, HR **Ana-Maria Simundic**



Treasurer, NL **Huibert Storm**



Member-at-Large, PL **Grazyna Sypniewska**



Member-at-Large, CZ **Tomáš Zima**

The EFLM structure includes 5 Committees: Science (Chair E Theodorsson, SW), Education&Training (Chair E Topic, HR), Quality&Regulation (Chair W Huisman, NL), Profession (G Wieringa, UK), Communication (C Webster, UK). The EFLM Committees are organized in a number of Working Groups.

Below you can find an interview with Prof Ian Watson (Past President) and Prof Mauro Panteghini (President).

Prof Watson, can you tell us about the past achievements of the Federation?

Well of course we all build on the actions of our predecessors and may complete actions they initiated whilst beginning one's own and of course it is a collaborative effort with your Executive Board.

A major change of the past two years was to have EFLM registered as a legal entity, this was very important from legal and tax status aspects and required a significant engagement from our member societies; the level of support and commitment of the National Societies was really encouraging during this task.

Ever since our creation from the merger of FESCC and EC4 we have been known as the European Federation of Clinical Chemistry and Laboratory Medicine with the EFCC and changed this after consulting with our member societies to EFLM. This was necessary because in some languages "E" sounds like "I" and so EFCC was being confused with IFCC. But more importantly, we wished to encourage the use of the term Laboratory Medicine as a descriptive term of our profession; this was referred to National Societies and the majority agreed that this was a more appropriate description. On a subsequent consultation, the National Societies agreed that the descriptor "Specialist in Laboratory Medicine" was an informative way to describe practitioners of our profession.

Article continued on next page

These actions were linked with the European Register of Specialists in Laboratory Medicine (EC4) and the European Commission. The recently approved European Directive [2005/36/EC, December 2013, (www.efclm.org/files/efcc/LexUriServ.pdf)] on the Recognition of Professional Qualifications was a catalyst to ensuring a more equitable distribution of knowledge and skills across the community's member states. For EFLM/EC4 national societies, the passage of the Directive has represented an opportunity for 9 EU member states to work with their governments to present the framework to the EU Commission; the EFLM Profession Committee (Chair Gilbert Wieringa) has been and will be at the forefront of shaping a common training framework for specialists in laboratory medicine and defining the equivalence of standards that ensures patients receive high quality, safe and equitable services wherever they are in the Community. EU national societies are encouraged to liaise with their EC4 representatives for guidance on becoming a candidate state. In developing a common training framework, EC4's syllabus for education, training, knowledge and competency expectations represent the building blocks to which the input of all relevant stakeholders will be also welcomed as we work to support the transposition of the Directive into national law.

EFLM sought and appointed Young Scientists (<35 years of age) to each of EFLM's Working Groups, this has been very successful in enabling them to engage in the work of EFLM and have injected their enthusiasm to their groups benefit.

Finally, we initiated a member of the Executive Board participation in a range on National Society and Regional meetings to raise the profile of EFLM and to improve engagement with member of these societies.

Prof Panteghini, at the beginning of your term of office as EFLM President, can you illustrate the federation perspectives and strategies for the future?

I am very proud to cover the role of EFLM President for the next two years. This represents for me a new important challenge in which to use the experience accumulated in previous international activities in the field of Laboratory Medicine.

EFLM has experienced a period of strong changes: in the last years, we have assisted to the evolution of the Federation from a group of highly motivated volunteers to a structured organization, not to mention the recent establishment of EFLM as a legal entity. Recently, EFLM has issued its own Procedure Manual and its own Publication Policy and I am confident that this will further contribute to the growth of EFLM thanks to the standardization and monitoring of all internal processes.

EFLM represents 39 European National Societies, a number covering almost half of the IFCC members, and it is therefore very important to assert the EFLM presence at international level by letting our voice be heard in the IFCC strategic decisions. I am strongly convinced that EFLM should act as a collector of proposals and/or concerns from EFLM members and, if necessary, to bring these to the attention of the international community. The EFLM Executive Board is currently preparing the new strategic plan for 2014-2015 and looks forward to receiving the contribution of National Societies members of the federation, so that the plan can reflect their real expectations. Furthermore, the EFLM Executive Board is willing to ensure that the existing EFLM Committees and Working Groups are fit for purpose and their outcomes are evaluated by periodical checks. We will also continue the established liaison between EFLM and IFCC functional units in case of topics of mutual interest.

The presence of Young Scientists in the EFLM Working Groups will continue to be strongly supported by the EFLM Executive Board and an important part of the EFLM budget will be allocated for bursary programs to permit young colleagues to attend EFLM congresses and educational courses. Last but not least, a new agreement on mutual cooperation between EFLM and Clinical Chemistry Laboratory Medicine journal has been signed for the duration of another 5 years (2014-2018) and we are happy that many opportunities for EFLM National Societies have been included in the contract in order to promote a wide distribution of the scientific contents of the journal.

As EFLM President, I hope to continue the great job of my outstanding predecessors.



European Federation of Clinical Chemistry and Laboratory Medicine

EFLM represents IFCC in Europe

The 3rd EFLM/UEMS Conference,
Liverpool, 7th – 10th October 2014

EUROLABFOCUS2014: Laboratory Medicine at the Clinical Interface

www.eurolabfocus2014.org

Liverpool



Liverpool

We are delighted that Liverpool's BT Convention Centre will act as host venue. Opened in 2008, it is a beautiful waterside location close to the Grade 1 listed Albert Docks (home to Tate Liverpool and The Beatles Story), Liverpool One shopping centre and the famous ferry across the Mersey. The Walker Art Gallery is home to a stunning collection of paintings

and sculpture from the 13th century to the present day. The Royal Philharmonic Orchestra is the UK's oldest surviving professional symphony orchestra dating from 1840 and gives over 60 concerts each season in its home town under the leadership of Chief Conductor Vasily Petrenko. From time out at a waterfront cafe to wining and dining in the cultural quarter, the choice is endless

Article continued on next page

The scientific programme

The 3rd EFLM-UEMS conference provides a unique opportunity to establish a laboratory medicine platform in a diverse scientific programme that explores clinical practice across Europe. Where do our practices differ? What can we learn from each other? The unique selling point of the programme is a series of topics of relevance at the interface between the laboratory and the patient. Indeed we

delivery issues across laboratory medicine. The main programme over 7th – 10th October is supplemented over 6th – 7th October by emerging topics of relevance to both training and continuous professional development. Discounted rates are offered to those wishing to attend the full 5 day programme.

In line with the first and second conferences in Lisbon2010 and Dubrovnik2012, Liverpool2014

BT Convention Centre ACC Liverpool



have a patient presenting and are actively seeking patient involvement in the meeting as attendees; the Wednesday is particularly designed with this in mind.

As well as themes of overlapping importance individual discipline updates on 2014's hot topics are included, the choice of topics reflecting service

will include oral presentations to close individual symposia. Speakers will be selected on the basis of abstracts that complement the symposia topics; as previously presenters in the clinical cases session will be chosen in this way. This opportunity should appeal to younger presenters whether from UK or any of the other 27 EU member states.

After a highly successful venture in Dubrovnik, poster rounds over lunchtime led by a facilitator comparing outcomes presented across a range of posters under a specific theme will be included. These sessions attracted large numbers of participants (specialists in their fields, poster presenters, and individual delegates) in 2012.

Posters will be presented amongst the commercial exhibition. We were delighted with early commercial partner support offered by Roche Diagnostics, Abbott Diagnostics, Beckman Coulter and Randox whose contributions in Industry Sponsored Workshops are an integral part of the programme. We would also welcome Industry Sponsored Workshops being provided by NHS providers of commercially successful ventures. What can others learn from your experience, what has been learned in turn by the venture, what determines success or failure?

Key dates

- **Closing date for abstract submission: 23rd May 2014.**
- **Successful authors will be notified by 1st July 2014.**
- **Abstracts will be published** in *Clinical Chemistry and Laboratory Medicine*
- **Early registration date: 1st August 2014**

The social programme

Tuesday 7th October - A Welcome Reception at the Museum of Liverpool, 1915 – 2100

Opened in 2011, the Museum of Liverpool reflects the city's global significance through its unique geography, history and culture. Visitors can explore how the port, its people, their creative and sporting

history have shaped the city. Delegates will have an opportunity to explore the museum during the Welcome Reception. Drinks and a buffet will be served. (www.liverpoolmuseums.org.uk)

Wednesday 8th October - Exhibition Reception, 1800 – 1930 hours

For delegates and diagnostics industry representatives alike, a chance to relax after the day's events before venturing out to see the sights in and around the conference centre and hotels. Drinks and nibbles will be served. The Exhibition Reception is included in the registration fee but please tick the box to confirm your attendance.

Focus Fringe - Pan Am Bar, Albert Dock, 2100 hours 'till late

An annual event for Focus conferences pulling together ageing lab rockers and budding singers in a succession of blues and rock bands that never quite made it to the top of the charts but knew how to have a good time. Book early, it's usually a sell-out! If you have musical talent and would like to join a band or sing then come along! (www.panambarliverpool.co.uk)

Thursday 9th October - Conference Celebration - The Floral Hall, Southport

A stunning venue with magnificently restored art deco features across two levels, the Hall is situated along the coast close to Liverpool. Transport to the venue will be by 'double-decker' buses, evening entertainment to include live music.

We look forward to welcoming you to Liverpool. Save the dates, spread the word! Full details about the programme and registration information may be accessed from the www.eurolabfocus2014.org web site.





European Federation of Clinical Chemistry and Laboratory Medicine

EFLM represents IFCC in Europe

EU Directive 2005/36/EC: A new horizon to working across the European Community

by Mariastella Graziani

After many years gestation the amendments to EU Directive 2005/36/EC (The recognition of professional qualifications) saw the light of day in December 2013 with its passage through the EU's Parliament, Council and Commission. It will allow more professionals to move freely across EU member states' borders in pursuit of new jobs and comes at a time when demand for highly qualified professionals across the EU is increasing whilst the labour force is declining. It is key to ensuring a more equitable distribution of knowledge and skills across the Community.

For specialists in laboratory medicine the impact is probably more significant on scientific than medical staff. Medical staff (along with groups like architects) already enjoy the benefits of free professional movement through automatic, mutual recognition of their qualifications. The same cannot be said for scientific staff wishing to work across Europe where the experience is often of imposed 'compensation measures' such as additional degrees, further training and competency tests before access to the employment market is granted.

Transposition into national law

With effect from January 2016, the Directive will be transposed into national law under the Single Markets Act. Under this act European law supersedes national law. The 2 year transposition period allows a minimum of 9 EU member states to work together to shape a common training framework for their profession on behalf of all 27 EU member states. Linked to individual achievement of the requirements of a common training framework will be the issue of a European professional card – effectively a passport for accessing the EU jobs market. The 2 year transposition period is vital to ensuring professional ownership of the components of a framework. Failure to present a common training framework may result in one being imposed by the Commission.

Establishing a common training framework for laboratory medicine across the EU Community

The shape of a framework is the safeguard to ensuring high quality, safe laboratory medicine services for people and patients across the Community. EC4* has worked extensively over the last 20 years to develop such a framework in anticipation of the Directive's passage. Specialist level practice is recognised through award of the title Specialist in Laboratory Medicine when an individual reaches 'equivalence of standards' with his/her EU counterparts. Approximately 3000 people across the EU currently hold this title on the EC4 Register. Many of the components of a common training framework are there already, a fact recognised by the EU Commission who keenly await specialists in laboratory medicine to be pioneers amongst the over 600 EU 'liberal' professions.

Where next?

The task of shaping a common training work has fallen on EFLM*, in particular its Profession Committee which has established two (2) working groups – the first to shape a common training framework, the second to lobby and then present the framework to the EU Commission. Progress is rapid with one (1) EU member state already signed up to shaping the 2016 version and 15 countries engaging with their governments. Further information about becoming one of the nine (9) EU member states can be obtained from the authors of this article.

EFLM* - the European Federation of Clinical Chemistry and Laboratory Medicine

EC4* - the European Communities Confederation of Clinical Chemistry and Laboratory Medicine

Nuthar Jassam – Chair, EFLM Profession Committee working group on Common Training Frameworks (nuthar.jassam@hdfn.nhs.uk)

Gilbert Wieringa – EC4 Foundation Board chair (gilbert.wieringa@boltonft.nhs.uk)



Pakistan

Minutes of The Meeting of General Body of Pakistan Phytopathological Society Held on 23.01.2014

by Dr. Abdul Mubeen Lodhi, General Secretary

A meeting of General Body of Pakistan Phytopathological Society was held on 23.01.2014 at 7.00 P.M. in the Auditorium of Sheikh Zayed Islamic Centre, University of Karachi, Karachi. Prof. Dr. Nazir Javed (President PPS) chaired the meeting.

The meeting started with the recitation of the Holy Quran. Dr. Abdul Mubeen Lodhi (as Conference Secretary as well General Secretary), extended a vote of thanks to all the members and participants of this International Conference of PPS. He invited members of the executive council to come on the stage and occupy their seats. Dr. Mubeen Lodhi briefed the house about the agenda of the meeting.

The agenda was:

1. Approval of the extension in the tenure of the executive body of PPS 2012-13.
2. Report of Treasurer
3. Selection of Election Commissioner
4. Venue of next meeting of PPS
5. Any other item.

The house discussed each item at length and following resolutions were passed unanimously.

Item No. I Approval of extension in the tenure of Executive Council of PPS 2012-13.

Resolution No. I. Resolved that as due to some unavoidable circumstances, present international Conference of PPS is now being organized 23-25 January, 2014 instead of December- 2013, the

house unanimously extended the tenure of PPS 2012-13 executive body till the next election of the executive council of PPS which may be held in March 2014 (the exact date will be decided by the Election Commissioner).

Item No. II. Report of Treasurer

Dr. Mohammad Shahid, Treasurer, PPS presented the financial report of PPS for the tenure 2012-2013. According to the report, the balance with PPS was Rs. 161,225/- when the present Executive Council took over (on 1.1.2012), while the balance as on 31.12.2013 was Rs. 266,000/-, excluding additional fixed certificates of Rs. 250,000.00.

Item No. III Selection of Election Commissioner

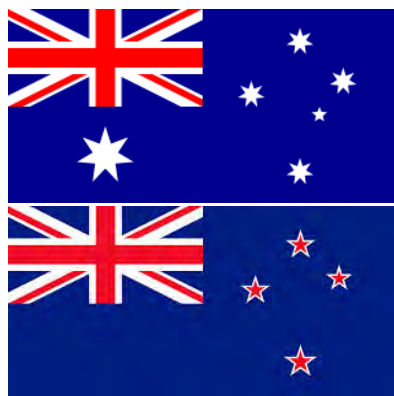
Resolution No. III. The house unanimously selected Prof. Dr. Muhammad Ashraf Randhawa as Election Commissioner for holding the elections of Executive Council of PPS for the tenure 2014-15.

Item No. IV. Venue of next meeting of PPS

Resolution No. IV. The bid was floated for holding the next conference of PPS. Dr. M. Saleem Haider, from Punjab University, Lahore offered to hold the PPS Conference-2015. The General body unanimously accorded his proposal.

The meeting was adjourned by a vote of thanks by the Chair

Dr. Abdul Mubeen Lodhi
General Secretary



Australia and New Zealand

Harmonisation of Laboratory Testing in Australia and New Zealand

by Sandra Klingberg

The harmonisation of laboratory testing is a high priority subject in Australia and New Zealand. Major harmonisation projects of the Australasian Association of Clinical Biochemists (AACB) and the Royal College of Pathologists of Australasia (RCPA) are:

- Pathology Units and Terminology Standardisation (PUTS);
- Common Reference Intervals (RIs); and
- Critical Laboratory Results.

Pathology Information, Units and Terminology Standardisation (PUTS/PITUS)

(<http://www.rcpa.edu.au/Library/Practising-Pathology/PTIS/APUTS-Downloads>)

In order to harmonise the reporting of patient pathology results and reduce the confusion in this area for both doctors and patients, the Australian Government-funded PUTS project was formed to standardise the terminology and units used for requesting and reporting pathology in Australia. The Biochemistry Working Group classified tests into groups according to a “Traffic Lights” system in which those allocated to the “Red” group should never be combined (e.g. troponin I) and only tests known to be well harmonised will be placed in the “Green” category (e.g. creatinine). The Working Group produced a subset of recommended LOINC terms for reporting frequently used biochemistry tests. The PITUS project (<http://www.rcpa.edu.au/Library/Practising-Pathology/PTIS/PITUS>) is a continuation of this standardisation and involves interaction between IT specialists, laboratories and general practitioners. Key projects by five working groups include:

- Implementation of standardised requesting and reporting (WG1);

- Development of terminology for requesting pathology and an information model for requesting genetic tests (WG2);
- Recommendations and guidelines for the rendering of cumulative reports to ensure safe reporting (WG3);
- Guidelines for the representation and rendering of values and flagging provided for guidance on reports (WG4 in collaboration with AACB); and
- Report modeling for cancer and communicable diseases registries (WG5).

Common Reference Intervals and Decision Limits

(www.aacb.asn.au/professionaldevelopment/harmonisation)

An initiative is currently underway to achieve harmonised reference limits through an evidence-based approach and understanding the various physiological factors that affect reference limits. The AACB organised workshops in 2012 and 2013 for representatives from all the major hospitals/networks and pathology organisations in Australia and New Zealand to reach a scientific consensus on what intervals we should use across Australasia. A checklist assessment process was adopted to assess the evidence for the use of common RIs which included an accurate assessment of the between-platform bias (within the reference interval range) of the eight major platforms in use. The RCPA Quality Assurance Program allowable limits of performance were used to determine whether bias would prevent the use of a common RI. As an outcome, common RIs or decision limits were recommended for calcium, phosphate, magnesium, sodium, potassium, chloride, bicarbonate, creatinine, total protein, ALP, and LDH (lactate to pyruvate method)

for adult and paediatric populations (see the [Table](#)). The final responsibility for adopting a proposed common reference interval lies with each laboratory director, and local validation of the common RIs is recommended to ensure their appropriate use for the population served by a clinical laboratory. The AACB is assisting individual laboratories to validate and implement proposed common RIs.

Critical Laboratory Results

A recent survey of Australasian laboratories has highlighted significant heterogeneity in the procedures surrounding the communication of critical laboratory results and actual critical values

used in practice. The Critical Laboratory Results Working Party has been formed with the aim of publishing recommendations surrounding the identification and notification of critical results and a suggested list of critical values for individual laboratories to use as a basis to develop their own.

AACB Harmonisation Committee

Jill Tate (Chair), Julie Ryan, Robert Flatman, Que Lam, Graham Jones, Ken Sikaris, Tina Yen, Gus Koerbin, Maxine Reed, Rita Horvath, George Koumantakis, Peter Graham, Ronda Greaves, Kristina Barancek, Narelle Hadlow, Peter Vervaart.

Table:
Comparison of adult reference intervals recommended for use in Australia and New Zealand, Scandinavia and United Kingdom.

Analyte	Unit	AHRIA (proposed) ^a	Aussie Normals Study ^b	NORIP ^c	Pathology Harmony ^d
Calcium	mmol/L	2.10 – 2.60	2.19 – 2.56	2.17 – 2.47 (18-49 y)	2.2 – 2.6
Phosphate	mmol/L	0.75 – 1.50	0.85 – 1.40	M: 0.75 – 1.65 (18-49 y) F: 0.85 – 1.50 (18-49 y)	0.8 – 1.5
Magnesium	mmol/L	0.7 – 1.1*	0.77 – 1.04	0.71 – 0.94	0.7 – 1.0
Sodium	mmol/L	135 – 145	136 – 145	137 – 145	133 – 146
Potassium	mmol/L	3.5 – 5.2* (serum)	3.7 – 4.9	3.6 – 4.6 (serum)	3.5 – 5.3
Chloride	mmol/L	95 – 110	101 – 110	-	95 – 108
Bicarbonate	mmol/L	22 - 32	-	22 – 32	22 – 29
Creatinine	µmol/L	M: 60 – 110 (18-60 y) F: 45 – 90 (18-60 y)	M: 55 – 106 F: 42 – 87	M: 60 – 100 F: 50 – 90	-
Total Protein	g/L	60 – 80	62 – 79	62 – 78 (serum)	60 – 80
Lactate dehydrogenase [L to P] ^e	U/L	120 – 250	124 – 224	105 – 205 (18-69 y) 115 – 255 (70+ y)	-
Alkaline phosphatase	U/L	30 – 110	40 – 111	35 – 105	30 – 130

^a AHRIA, Australasian Harmonised Reference Intervals for Adults (Koerbin G et al. Clin Chim Acta 2013; ePub ahead of print, doi:10.1016/j.cca.2013.10.021)

^b Australian Aussie Normals Reference Interval Study (data provided by G. Koerbin and P. Hickman)

^c NORIP, Nordic Reference Interval Project (Rustad P et al. Scand J Clin Lab Invest 2004;64:271-84)

^d Pathology Harmony UK harmonisation project (Berg J, Lane V. Ann Clin Biochem 2011;48:195-7)

^e LDH [L to P], lactate to pyruvate method

* Provisional – still under review either due to pre-analytical or flagging issues.



SERBIA: SOCIETY OF MEDICAL BIOCHEMISTS



by *Dr. Snežana Jovičić*

Society of Medical Biochemists of Serbia

Liaison Member of the IFCC eNewsletter Working Group

Each December, the Society of Medical Biochemists of Serbia (SMBS) dedicates a scientific conference to the life and work of the esteemed Prof. Dr. Ivan Berkeš, one of the founders of medical biochemistry in Yugoslavia. The conference is organized under the auspices of the SMBS, Scientific Foundation "Professor Ivan Berkeš", University of Belgrade School of Pharmacy, Institute for Medical Biochemistry of the Clinical Center of Serbia, and Institute for Medical Biochemistry of the Military Medical Academy.

THE 16TH ANNUAL PROFESSOR IVAN BERKEŠ SCIENTIFIC CONFERENCE

Singh, Organizer of the Scientific Conference. The scientific program of the Conference was dedicated to the presentation of doctoral theses defended in the field of medical biochemistry at the Schools of Pharmacy and

Schools of Medicine of the Universities of Belgrade, Niš, and Novi Sad during the past year. This year's four doctorates were - "*Factor analysis and association of lipid, inflammatory, cardiac, and renal biomarkers with C-reactive protein in cardiovascular risk categorization*" presented by Dr. Snežana Jovičić, (School of Pharmacy, University of Belgrade); "*Biomarkers of apoptosis and cell signaling in colon cancer pathogenesis*" by Dr. Aleksandar Veljković (School of Medicine, University of Niš); "*Correlation of biomarkers of lipid status, oxidative stress, and lifestyle changes in a student population*" by Dr. Dragana Pap (School of Medicine, University of Novi Sad), and "*Application of multimarker approach to risk stratification among patients on dialysis*" by Dr. Aleksandra Ignjatović (School of Medicine, University of Niš). With another successful conference, medical biochemists of Serbia remembered once again the esteemed professor Ivan Berkeš, who mentored the leading experts in medical biochemistry in Serbia today.



Photo 1: From left to right: Ivan Berkeš – grandson of Prof. Dr. Ivan Berkeš, Prof. Dr. Nada Majkić-Singh – Executive Director of SMBS, awarded students – Biljana Škorić, Sanja Vučković; Prof. Dr. Svetlana Ignjatović – Chair of the Conference, and Dr. Zorica Šumarac – President of the SMBS.

The Sixteenth Annual "Professor Ivan Berkeš" Scientific Conference was held on December 4th 2013 at the Military Medical Academy in Belgrade. It was opened with the welcome address of the Brigade General Prof. Dr. Marjan Novaković, Head of Military Medical Academy, and Prof. Dr. Nataša Bogavac-Stanojević, Vice Dean of University of the Belgrade School of Pharmacy. Since the Scientific Foundation "Professor Ivan Berkeš" traditionally gives awards to the best graduate students of the University School of Pharmacy in Belgrade, this year's awards were presented to Biljana Škorić, Master of Pharmacy, and Sanja Vučković, Master of Pharmacy-Medical Biochemist, by Dr. Zorica Šumarac, President of the SMBS, and Prof. Dr. Nada Majkić-



Photo 2: Scientific Conference Speakers (from left to right) – Dr. Zorica Šumarac (President of the SMBS), Dr. Aleksandra Ignjatović, Dr. Dragana Pap, Prof. Dr. Nada Majkić-Singh (Executive Director of SMBS), Dr. Janko Pejović (Co-chair of the Conference), Prof. Dr. Svetlana Ignjatović (Chair of the Conference), Dr. Snežana Jovičić, and Dr. Aleksandar Veljković.

Medical Biochemistry Student Participation in The Sixth National Congress of Pharmacy Students of Serbia

by Dr. Snežana Jovičić

The medical biochemistry students' organization of the University of Belgrade School of Pharmacy, the Team of Medical Biochemists (TMB), is a full member of the Belgrade Pharmacy Students' Association (BPSA). BPSA gathers pharmacy students of the University of Belgrade School of Pharmacy and represents their connection to National Association of Pharmacy Students – Serbia (NAPSer), which is a full member of the International Pharmaceutical Students' Federation (IPSF) and the European Pharmaceutical Students' Association (EPSA). NAPSer is the top organization of pharmacy students of Serbia, and whose activities include international student exchange, development of clinical skills and patient counselling events, following and comparison of curriculums of University Schools of Pharmacy in Serbia and the world, organization of congress, seminars, and workshops in order to enable professional development of pharmacy students according to current world trends in pharmacy. TMB's activities are consistent with those of BPSA's and NAPSer's, but adjusted to the field of interest and activities of medical biochemistry students.

Singh reminded the auditorium of the development of the profession of medical biochemist in Serbia, from the introduction of the Medical Biochemistry course at the University of Belgrade School of Pharmacy in 1939, through introducing the first vocational postgraduate training program for healthcare professionals in medical biochemistry in 1956, until the university graduate studies of medical biochemistry in 1986, and the 5-year studies according to the Bologna principles. Also, the lecture presented the course of postgraduate training through vocational and PhD studies, and their harmonization with EFLM's EC4 Committee requirements for registration as European Specialists of Laboratory Medicine.

Continuing the discussion on this topic, Dr. Snežana Jovičić was the speaker and moderator of the workshop entitled "Education and the Role of the Medical Biochemist – Serbia and the World". In the first part, the curriculum of medical biochemists' education in Serbia was compared with European countries, members of the EC4 Committee, and the USA. The similarities and



Prof. Dr. Nada Majkic-Singh and Dr. Snežana Jovicic with medical biochemistry students, participants at the Sixth National Congress of Pharmacy Students of Serbia

The most important event amongst the activities of NAPSer's every year is the National Congress of Pharmacy Students, held at the end of the year. The topic of last years' congress, held on 20–23 December 2013 on the mountain Zlatibor, was "Pharmacy practice – chances and challenges". TMB organized lectures and workshops for medical biochemistry students as part of the congress' program. Prof. Dr. Nada Majkić-Singh was a speaker on this occasion and her lecture was "Medical Biochemist – The Role in Healthcare System". Prof. Majkić-

differences in the education were pointed out, as well as the employment possibilities in Serbia and abroad. Also, the skills and abilities necessary for successful careers in medical biochemistry in different working environment (clinical laboratory, industry, commercial laboratory...) were summarized. Through a panel discussion, students expressed their dilemmas concerning their future carriers, positions and advancement within national healthcare and other educational systems.

MIOF-IFCC study summarizes fracture prediction strength of reference bone turnover markers



International Osteoporosis
Foundation

Meta-analysis shows moderate but significant association between the BTMs s-CTX and s-PINP and risk of future fractures not adjusted for BMD

Nyon, Switzerland – March 4, 2014

A new study by an International Osteoporosis Foundation (IOF) and International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) scientific working group summarizes the clinical performance of serum procollagen type I N propeptide (s-PINP) and serum C-terminal crosslinking telopeptide of type I collagen (s-CTX) in fracture risk prediction in untreated individuals in prospective cohort studies.

The current study follows a position paper published in 2011 by the IOF-IFCC Bone Marker Standards Working Group recommending the use of bone formation marker serum s-PINP and bone resorption marker serum s-CTX as reference markers to be used in future studies of fracture risk assessment.

In the study, ten potentially eligible publications were identified and six included in meta-analysis. The results showed a moderate but significant association between the bone turnover markers (BTMs) studied and the risk of future fractures not adjusted for bone mineral density (BMD). There was a significant association between s-PINP and the risk of fracture. The hazard ratio (HR) per standard deviation (SD) increase in s-PINP was 1.23 (95% CI: 1.09-1.39) for men and women combined unadjusted for bone mineral density.

There was also a significant association between s-CTX and risk of fracture, HR per SD 1.18 (95% CI: 1.05-1.34) unadjusted for bone mineral density. For

the outcome of hip fracture, the association between s-CTX and risk of fracture was slightly higher 1.23 (95% CI: 1.04-1.47).

“This is the first meta-analysis of BTMs which was made possible by standardising the expression of risk,” said Working Group Co-Chair Professor Howard A. Morris, School of Pharmacy and Medical Sciences, University of South Australia. He added, “One strength of the study is that we were able to standardize the metric of predictive power. The metric used was the gradient of risk – namely the increase in fracture hazard ratio between two individuals who differ by 1SD in BTM. This has the advantage of maximizing the use that can be made of publications that used differing indices of risk.”

The fracture risk increased by approximately 20%, depending on the analyte and the outcome fracture that was studied. These gradients of risk are substantially lower than those reported for the use of femoral neck BMD in the prediction of fracture.

Professor John A. Kanis, IOF President and report author said, “More studies are required to better evaluate the independent role of BTMs in fracture risk prediction. The use of common reference BTMs in prospective cohort studies with the standardization of their measurements, as recommended by the IOF and the IFCC, will help address these important issues.”

Reference:

Johansson H, Odén A1, Kanis JA, McCloskey EV, Morris HA, Cooper C, Vasikaran S and the IFCC-IOF Joint Working Group on standardisation of biochemical markers of bone turnover. A meta-analysis of reference markers of bone turnover for prediction of fracture. *Calcif Tissue Int* DOI 10.1007/s00223-014-9842-y <http://link.springer.com/article/10.1007/s00223-014-9842-y>

Related paper:

Vasikaran S, Eastell R, Bruyere O, Foldes AJ, Garnero P, Griesmacher A, McClung M, Morris HA, Silverman S, Trenti T, Wahl DA, Cooper C, Kanis JA; IOF-IFCC Bone Marker Standards Working Group. Markers of bone turnover for the prediction of fracture risk and monitoring of osteoporosis treatment: a need for international reference standards. *Osteoporos Int* 2011;22(2):391-420. <http://link.springer.com/article/10.1007/s00198-010-1501-1>

About IOF



**International Osteoporosis
Foundation**

The International Osteoporosis Foundation (IOF) is the world's largest nongovernmental organization dedicated to the prevention, diagnosis and treatment of osteoporosis and related musculoskeletal diseases. IOF members, including committees of scientific researchers, leading companies, as well as more than 200 patient, medical and research societies, work together to make bone, joint and muscle health a worldwide health care priority.

<http://www.iofbonehealth.org/>
www.facebook.com/iofbonehealth/
<https://twitter.com/iofbonehealth/>

About IFCC



The International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) is a worldwide, non-political organization of 88 Full Members National Societies, 10 Affiliate Members National Societies and 51 Corporate Members serving laboratory professionals worldwide. Through leadership, collaboration and innovation in science and education IFCC enhances the scientific and clinical quality and understanding of laboratory medicine so improving clinical outcomes for patients. This is achieved by providing a forum for standardization of laboratory methods and by expanding scientific, educational and managerial services within laboratory medicine through publications, scientific meetings, and specialized conferences. www.ifcc.org

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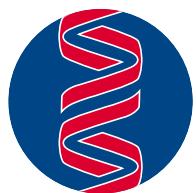
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Website: www.sonichealthcare.com

PRESS RELEASE: International Agreement to Improve Quality in Laboratory Medicine NPU Terminology



The undernoted three organisations are pleased to announce the signing 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 Professional Scientific Exchange Programme (PSEP) Report: Dr. Shirin Tarbiat

by Shirin Tarbiat

I would like to express my great gratitude to the IFCC Professional Scientific Exchange Program (PSEP) for awarding me this prestigious PSEP grant. I was very honored when I received news that my application was accepted to do research in the Sar laboratory in the Molecular Biology and genetics Department at KOC university, Istanbul.



It has been an important experience for my professional curriculum and which has opened up many opportunities for me as a Postdoctoral research fellow. I have learnt comprehensive basics of *C. elegans* biology, cell biology and the use of genetics in *C. elegans*. I obtained much information about micro RNAs function, biogenesis pathway and important of proteins which are involved

in micro RNA biogenesis. I also became familiar with techniques in molecular biology that are necessary to for the biochemical experiments in my project titled “Role of PASH-1 mutations in neuro degeneration in *C.elegans*.”

The IFCC support has certainly been essential in the acquisition of new knowledge and learning.

Acknowledgements: I am grateful to IFCC for approving and supporting my application, especially to the IFCC President **Dr. Graham Beastall**. I want to thank to **Mrs. Colli-Lanzi** for her help through my IFCC communication. I extend my heartfelt gratitude to **Dr. Funda Sar** for hosting and guiding me and for also planning my project. I am also grateful to **Dr. Nihal Cakmakci** for her support during my work at KOC University, Istanbul. I also acknowledge **Dr Rajiv R Sinha and Dr.Elizabeth A.Frank** from the ACBI head office, India. I am also grateful to **Prof. Cletus J.M. D’Souza** for his constant support and guidance from University of Mysore and finally I would like to thank **Prof. B.S.Vishwanath**, chairman of Biochemistry department, Mysore University, India.

Your sincerely

Shirin Tarbiat



Title of the project:

Role of PASH-1 mutations in neuro degeneration in *C.elegans*

Investigator: Ms. Shirin Tarbit



In the last decade micro RNA (miRNA) mediated gene regulation has emerged as an important mechanism of post-transcriptional gene regulation. miRNAs are ~22 nucleotide non-coding RNAs that act as post-transcriptional inhibitors of gene expression through base-pairing with specific target mRNAs. A plethora of

biological processes has been shown to be regulated by miRNAs: cell growth, tissue differentiation, cell proliferation, embryonic development,, apoptosis and aging [8]. Recently, a conditional allele of miRNA biogenesis gene *DGCR8/pash-1 (pash-1(mj100))* was isolated in *C. elegans*. *pash-1(mj100)* mutants

Article continued on next page

display a temperature-sensitive defect in miRNA processing; at 15°C miRNAs are expressed at near-normal levels, whereas miRNA processing is drastically reduced or absent at 25°C. This allows reversible and rapid inactivation of miRNA synthesis by temperature up shifts. Using this allele several developmental functions of miRNAs have been described. Our preliminary results show that there is extensive neurodegeneration in *C. elegans* in the absence of functional PASH-1 protein due to protein aggregation.

The main objective of this study was to determine the biochemical properties of PASH-1 protein and to understand how the mutation in PASH-1 affects the function of this protein and neurodegeneration in *C. elegans*.



Caenorhabditis elegans is a free-living nematode (roundworm), and lives in soil. *C. elegans* worms are easy to grow under laboratory conditions and have a short life cycle. The life cycle is temperature-dependent. *C. elegans* goes through a reproductive life cycle in 5.5 days at 15°C, 3.5 days at 20°C, and 2.5 days at 25°C. *C. elegans* eggs are fertilized within

The main objective of this study was to determine the biochemical properties of PASH-1 protein and to understand how the mutation in PASH-1 affects the function of this protein and neurodegeneration in *C. elegans*.

the adult hermaphrodite (self-fertilization) and embryos layed within few hours of fertilization. After hatching, development proceeds through 4 larval stages (L1-L2-L3-L4) to become young adults and then adults. Self-fertilizing adults produce about 300 progeny each. *C. elegans* can adopt an alternative life

form, called the *dauer* larval stage. This stage is an adaptation to survive in extreme conditions such as starvation. Interestingly, in improved conditions, such as availability of food, dauer worms resume normal development.



Worms are generally grown on NGM plates containing the bacterial (*E. coli*) strain, OP50. The worms crawl around the plate, eat off the bacterial lawn and reproduce. Usually worms are grown at either 15°C or 20°C. Varying the incubation temperature (between 15°C and 20°C) is pretty much the only way to control the rate of worm growth and development. Temperatures >25°C are usually harmful. Worms are tough and can survive without food for a period of time. They do this in part by forming "dauer" larvae, which are dark and thin and often lie motionless. Neglected worms can survive for up to several months provided the plates



do not become badly contaminated or dry out.

In the laboratory of Dr. Sar, I gained comprehensive information of *C. elegans* biology and cell biology. In the beginning, I was introduced to the world of *C. Elegans*. I learnt how to use genetics in *C.elegans*. Genetics is used for two principal purposes: (1) to positionally map mutations so that the wild-type copy of the corresponding gene can be cloned; and (2) to generate strains containing multiple mutations for phenotypic analysis. The basic techniques will apply to both uses. I have also learnt *C.elegans* nomenclature, gene names, mutant names and alleles, animal phenotype, types of mutations, worm chromosomes, feeding, growing, and maintaining worms. I studied the life cycle of *C. elegans* and followed the 4 larval stages (L1-L2-L3-L4) to young adults and then adults in the worm developmental process. Picking worms and setting up matings/crosses and drawing out the entire set of crosses before picking a single worm also required a knowledge of basic genetics and I acquired this background during the first month.

In order to study the biochemical properties of PASH-1 protein of *C. elegans*, we had to analyze protein homeostasis in *pash-1* mutant worms. Since PASH-1 is required for the synthesis of miRNAs, in the absence of functional PASH-1 protein in *mj100* animals we expect the accumulation of

cellular proteins due to protein aggregation. Protein aggregation is one contributing factor to functional decline in muscle and neuronal tissues. With this expectation we first examined whether PASH-1 protein itself undergoes protein aggregation in mutant animals or not. We performed western blot analysis for *pash-1(mj100)* worms from two different temperatures (15°C and 25°C) and *pash-1* rescue (25°C) worms and N2 worms as controls to check PASH-1 protein physiology in mutant animal. We have not observed PASH-1 protein aggregation in *pash-1* mutant animals. Thus, the observed phenotypes in the absence of miRNA biosynthesis are not a result of PASH-1 protein aggregation and toxicity.



In continuation of my work, we designed primers for *drsh* and *pash-1* for quantitative RT-PCR strains (mixed stage N2 and *pash-1(mj100)* of worms described in the methods below.

Pash-1(mj100) mutant was isolated after EMS mutagenesis. EMS introduces several mutations. In order to assess the phenotypes occurring due to the *pash-1(mj100)* mutation, we introduced the wildtype copy of *pash-1* gene into *pash-1(mj100)* animals. The newly generated strain is called SX1359, rescue strain. SX1359 strain expresses wild type *pash-1* gene in every tissue. 25°C temperature-specific phenotypes are rescued in SX1359 strain when compared to the *pash-1(mj100)* strain.

IFCC 's Calendar of Congresses, Conferences & Events

Calendar of IFCC Congresses/Conferences and Regional Federations' Congresses

2014 - Apr 24-26	IFCC/ESCCA Beckman Coulter Flow Cytometry Course "Harmonisation and Standardisation in Flow Cytometry"	Vienna, AT
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
2014 - Oct 24-25	IFCC Specialized Conference "Biomarkers in Neuropsychiatric Disorders"	Toronto, CA
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

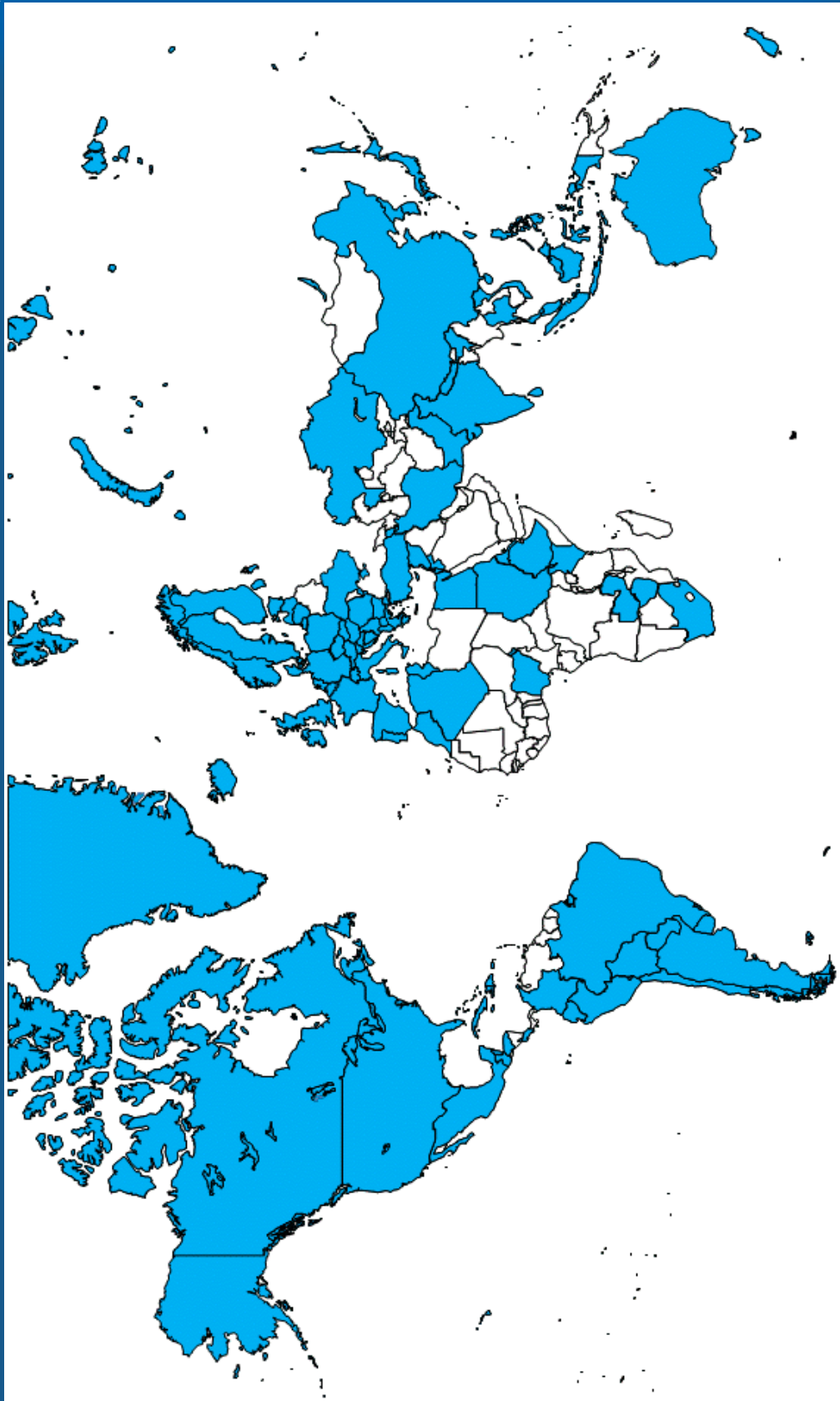
2014 - May 2-4	XII Ecuadorian Congress and VIII Clinical Biochemistry International Congress	Guayaquil, EC
2014-May 14-18	Health Systems Management Programme	Nahalal, IL
2014 - May 26-30	Diagnostic Hands on Training Molecular Diagnostic Workshop	Harare, ZW
2014 - May 28-31	8th Conference of Romanian Association of Medical Laboratories (RAML)	Sibiu, RO
2014 - June 3-4	SEQC V International Symposium on Medical Laboratory and Quality	Bacelona, SP

2014 - June 4-7	21st Congress of the Romanian Society of Laboratory Medicine	Sibiu, RO
2014 - June 8-11	2014 CSCC Annual Conference	Charlottetown, CA
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 - July 1-5	International Conference "Healthcare integrated biobanking and multiomics biomarker analysis (July 3-5, 2014)" and pre-conference workshop on "Lipidomics for biomarker and clinical analysis (July 1-3, 2014)"	Regensburg, DE
2014 - Aug 14-16	8 th Palestinian Conference of Medical Technology	Ramallah, Palestine
2014 - Aug 27-29	II Congreso Bioquímico del NEA	Corrientes, AR
2014 - Sept 9-13	10th EFLM Symposium for Balkan Region under the title Paediatric 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 - Sept 16-19	XXXIV Nordic Congress in Clinical Chemistry	Göteborg, SW
2014 - Sept 17-20	AACC Symposium: Critical and Point-of-Care Testing: Real World and Emerging Applications for Improved Clinical Outcomes	San Diego, US
2014 - Sept 18-20	XII Baltic Congress in Laboratory Medicine (BALM)	Riga, LV
2014 - Sept 19-21	Unipath 2014 - 54th Annual Pathology Congress of the Federation of South African Societies of Pathology	Pretoria, ZA
2014 - Sept 24-27	German Congress for Laboratory Medicine (DKLM)	Mannheim, DE
2014 - Sept 24-27	7th Santorini Conference "Systems Medicine Personalized Health and Therapy"	Santorini, GR
2010 - Oct 7-10	3 rd EFLM/UEMS Congress "Laboratory Medicine at the clinical interface"	Liverpool, UK
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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- 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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