International Federation
of Clinical Chemistry
and Laboratory Medicine

Handbook
2018-2020

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of Clinical Chemistry
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of Clinical Chemistry
and Laboratory Medicine

Handbook
2018-2020

IFCC will provide worldwide leadership in clinical chemistry and clinical laboratory medicine to professional societies, the diagnostic industry, governmental and non-governmental organisations to serve the public interest in health care.

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1 May, 2018

IFCC HANDBOOK 2018-2020

Note:

The order of this Handbook has been largely determined by the IFCC Numbering System that was originally designed and implemented by Prof. Mathias M. Müller. Wherever possible the numbering of Chapters and Paragraphs complies with this system. Where this is not possible the appropriate IFCC Number is given in brackets alongside the Handbook entry.

It is helpful to use the IFCC Numbering System when corresponding with IFCC about any topic. A summary of the full IFCC Numbering System is included in Chapter 16 of this Handbook (Paragraph 16.8).

FOR FURTHER INFORMATION CONTACT:

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Handbook of the International Federation of Clinical Chemistry and Laboratory Medicine

2018-2020 Edition

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Chapter 1
Organisation, Structure and Function of IFCC

1.1. INTRODUCTION

The International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) is a worldwide, non-political organization for clinical chemistry and laboratory medicine. As such, it has a range of roles that include (1) global standard setting in collaboration with other international organizations, (2) supporting its members through scientific and educational endeavour, and (3) providing a series of congresses, conferences and focused meetings for laboratory medicine specialists to meet and present original findings and best practice.

The IFCC relies very heavily on volunteers to run the organization and to undertake its range of activities and programmes. Those volunteers are constantly changing and so a reference document is required to assist people who want to learn more about IFCC and its operation. That reference document is this IFCC Handbook.

The production of the IFCC Handbook occurs once every three years to coincide with the term of each Executive Board. However, IFCC is a dynamic organisation that evolves constantly. The most up to date information about IFCC is always available from the IFCC website (www.ifcc.org).

The Handbook puts in one place all the information about the function and operation of IFCC. This includes the organization of IFCC and its aims and strategic objectives over the three-year life of the Executive Board. Also, it includes details of IFCC programmes and projects. The Handbook lists, in logical order, IFCC Regional Organizations, Divisions, Committees and Working Groups. The Full Members, Corporate Members and Affiliate Members are also included. Contact names and addresses are included for the many people who work with and for IFCC. Finally, the necessary Statutes and Rules of the IFCC are published in the Handbook.

We thank the many individuals responsible for preparing this useful document.

Howard Morris
President

David Kinniburgh
Secretary

1.2. ORGANISATION OF IFCC

The IFCC contains three Membership categories.
- Full Members that are recognised and established national societies of clinical chemistry and laboratory medicine.
- Corporate Members, that are individual companies, corporate entities or research establishments concerned with the field of clinical laboratory practice.
- Affiliate Members that are allied international or national societies or groupings interested in the science and practice of laboratory medicine.

The organisational structure of IFCC is illustrated in the Figure 1. The governing body is the Council that consists of one Representative appointed by each Full Member (voting), Affiliate Member, and Corporate Member. It convenes at the triennial International Congress of Clinical Chemistry and Laboratory Medicine. Between Council meetings, the business of IFCC is conducted by the Executive Board that is elected by the Council. Any important questions that arise between Council meetings, such as the admission of new Full Members to the Federation, approval of recommendations, and changes or amendments of statutes are decided by ballot of the Full Member Representatives voting on behalf of their societies.

Membership of IFCC is accorded to National Societies of Clinical Chemistry and/or Laboratory Medicine, each of which pays dues related to the number of members in its society. A Society applying for Full Membership of IFCC must show that it is recognised as the main society responsible for clinical chemistry and/or laboratory medicine in that country and satisfy the Executive Board that its statutes and by-laws are in accordance with the principles of the Federation.

The Executive Board comprises the President; Past President or President Elect; Secretary; Treasurer; one representative elected by each of the six Regional Federations; and an individual representing Corporate Members. The Executive Board normally meets three times a year; the Chairs of the IFCC Divisions attend at least one meeting per year.

The IFCC carries out much of its business through its Divisions and Committees.
There are currently four Divisions, each of which has an Executive that reports directly to the Executive Board.
- Scientific Division
- Education and Management Division
- Communications and Publications Division
- Emerging Technologies Division

The Committee for Congresses and Conferences also reports directly to the Executive Board.
Every three years, the Executive Board appoints two further committees, namely, the Nominations Committee to prepare a slate of candidates for elections for the next Executive Board, and the Awards Committee to select the recipients of the IFCC awards. The Executive Board may also appoint Special Project Committees and Task Forces.

Much of the work of the Divisions is delegated to Committees, which report to the Division Executive. These Committees have broad responsibility areas and tend to function for several years. Members of the Division Executives, together with the Chairs of the Committees reporting to Divisions, are appointed by the Executive Board; ordinary members of Committees reporting to Divisions are appointed by the Division Executives. Divisions may also appoint Working Groups to work on defined projects or

to do less formalised work. Working Groups are dissolved when their specific projects are completed, although their work may lead to the establishment of Committees or other activities funded by IFCC.

All IFCC Members (Full, Corporate and Affiliate) are invited to suggest candidates to serve on Division Executives, Committees and Working Groups. Appointment is according to merit without respect to nationality or other affiliation. Members (Full, Corporate and Affiliate) are also invited to participate in the work of Division Committees, Working Groups and Task Forces by appointing Corresponding Members.
Division Executives and Committees are funded by the IFCC, most of the work of Working Groups is done without financial support from the IFCC.

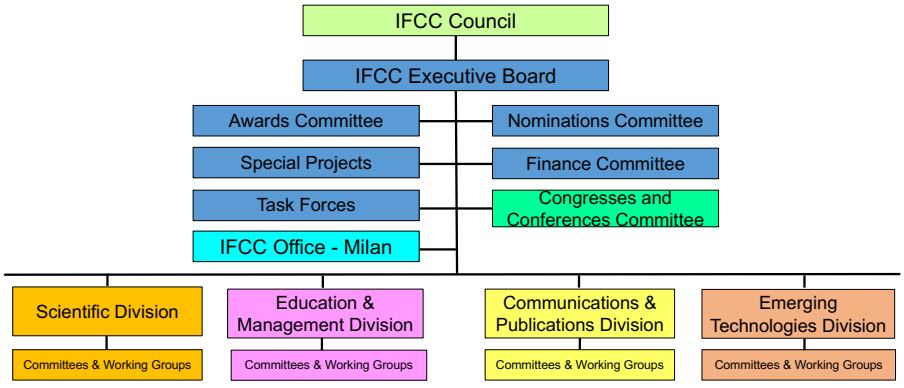
The other key part of the organisation is the IFCC Office which is located in Milan (IT). This office is responsible for most of the daily and organisational matters and is the point of contact for all IFCC activities. The IFCC Office has responsibilities for supporting the Executive Board, Division Executives and Committees, for maintaining the IFCC website and for all relevant documentation. The IFCC Office also supports the organisation of some IFCC Conferences. IFCC part funds the staff member of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM), which is co-located with the IFCC Office.

The address of the Office is:
IFCC OFFICE
Via Carlo Farini, 81
20159 Milano, Italy
Phone: +39 02 66809912
E-mail: ifcc@ifcc.org
Website: www.ifcc.org

The current Office Staff are:

Mrs Paola Bramati	paola.bramati@ifcc.org
Mrs Silvia Cardinale	cardinale@ifcc.org
Mrs Silvia Colli Lanzi	colli-lanzi@ifcc.org

Figure 1: *IFCC Organisational Structure*



1.3. THE IFCC EXECUTIVE BOARD 2018-2020

Biographies of the IFCC-EB members 2018-2020

President:
Professor Howard MORRIS

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Prof. **Howard Morris** (PhD, FAACB, FFSc(RCPA)) holds a joint appointment as Professor of Medical Science in the School of Pharmacy and Medical Sciences, University of South Australia and Clinical Scientist in Chemical Pathology at SA Pathology, Adelaide Australia. Between 2012 and 2014 he served as IFCC Vice-president, between 2003 and 2008 he was the Secretary of the Scientific Division of the IFCC and has served as Chair the IFCC-International Osteoporosis Foundation Joint WG on Standardization of Bone Turnover Markers (2012-2017) and as a member of the IFCC Task Forces on the Global Campaign on Diabetes Mellitus (2003-2008) and on International Clinical Liaison (2009-2011).
Within the Asia Pacific Federation of Clinical Biochemistry (APFCB) Dr.Morris served as Chair, Scientific Committee (2002-2004) and Chair, Scientific Organising Committee, Member Organising Committee for 10th Asian Pacific Congress of Clinical Biochemistry (2002-2005). He was the Australasian Association of Clinical Biochemists (AACB) representative to the Councils of the IFCC and APFCB (1998-2004), served on AACB Council (1998-2002) and Editor of the Clinical Biochemist Reviews (1994-2002). He was awarded an AACB Outstanding Service Medallion (2003) and the W. Roman Travelling Lectureship (2004). Dr Morris is currently a Clinical Scientist in the Chemical Pathology Directorate, SA Pathology providing clinical advice and comments in the discipline. He has 30 years' experience working in diagnostic clinical biochemistry in the field of immunoassay and endocrinology including management of a major clinical endocrinology laboratory. In 1997/98, the laboratory reported some 245,000 patient results. Between 2003 and 2009 he was the Director of the Hanson Institute, the research arm of the IMVS and RAH. In 2009 the Hanson Institute administered infrastructure to support the research of some 300 staff and 100 postgraduate students who generated external grants amounting to approximately $AUD 30 million annually.
Prof. Morris leads an active research team that has received over $10 million in competitive research grants and has published 280 refereed publications, reviews and book chapters. His research interest includes the pathophysiology of metabolic bone disease and the effects of hormones including vitamin D. His research has been funded by the National Health and Medical Research Council and Australian Research Council, the major competitive funding bodies in Australia. His latest work has identified anabolic actions of vitamin D following metabolism within bone tissue providing a molecular mechanism for vitamin D requirement to reduce the risk of fractures amongst the elderly. He was awarded the Louis Avioli Memorial Lectureship for 2009 by the American Society for Bone and Mineral Research on this topic.

Past President
Prof. Maurizio FERRARI

Professor of Clinical Pathology
University Vita-Salute San Raffaele
Director of Clinical Molecular Biology and Cytogenetics Laboratory
Head of Unit Genomics for Diagnosis of Human Pathologies
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Maurizio Ferrari, (M.D.), is Full Professor of Clinical Pathology, University Vita-Salute San Raffaele, Director of Clinical Molecular Biology and Cytogenetics Laboratory, and Head of Genomic Unit for the Diagnosis of Human Pathologies, Division of Genetics and Cell Biology, IRCCS San Raffaele, Milan, Italy. He received his Degree in Medicine at the Milan University, is specialized in Pediatrics, Haematology and Medical Genetics. He was Post-doc at Hospital Paul Brousse, Villejuif, Paris and Honorary Registrar in Haematology at UCH, London.

He was Scientific Coordinator of Clinical Research, IRCCS H San Raffaele, Milan (1996-1999), Chairman of Committee on Clinical Molecular Biology Curriculum of IFCC (2002-2007), member of IFCC Task Force on Pharmacogenetics (2008-2013.), member of the Education and Management Division of IFCC (2008-2011). He was Chairman of the Education and Management Division of IFCC (2012-2014), advisor of CLSI Committee on Molecular Methods.

He was Dean of the Master's Degree in Molecular and Cellular Medical Biotechnology (2008-2017) and President of the European Society of Predictive Medicine (2009 at present).

He received in 2004 the IFCC-Abbott Award for Significant Contributions in Molecular Diagnostics.

His scientific interests are oriented mainly on molecular diagnostic methods, nucleic acid circulating in maternal plasma, molecular studies of several genetic pathologies. He developed methods for DNA analysis as multiplex PCR and capillary electrophoresis also in a temporal thermal gradient, set up a method involving the ligase chain reaction (LCR) and developed a new method known as double-gradient DGGE (DG-DGGE) for the identification of unknown mutations. In the last 4-5 years he has focused his research activity on the detection of foetal DNA in maternal plasma for non-invasive prenatal diagnosis and for diagnostic application in the genetic and oncology field. At present, his research is focused on the development of diagnostic tests with the application of the next generation sequencing and on liquid biopsy applications in oncology with specific focus on new technologies and methods standardisation.

Secretary:
Prof. David KINNIBURGH

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Dr. **David Kinniburgh** (MSc, PhD, DABCC, FCACB) is a board-certified clinical chemist and fellow of the Canadian Academy of Clinical Biochemists whose career in laboratory medicine spans more than four decades. He has worked in the public, private and academic sectors in clinical chemistry, toxicology and medical laboratory management and is recognized as a qualified expert witness in clinical chemistry, toxicology and laboratory operations for the Canadian justice system.

Currently a Clinical Professor with the Department of Laboratory Medicine and Pathology at the University of Alberta and an Adjunct Associate Professor with the Department of Physiology and Pharmacology at the University of Calgary's Cumming School of Medicine, Dr. Kinniburgh is also Director of the Alberta Centre for Toxicology (ACFT) and a consultant in clinical chemistry, toxicology and medical laboratory operations. As Director of the ACFT, he oversees operations to provide the highest quality of public health toxicology testing for the province of Alberta while leading an active research program in the areas of environmental toxicology and human health.

Dr. Kinniburgh began his career in laboratory medicine in 1972 as a lab technologist and went on to receive his MSc in clinical chemistry and PhD in analytical toxicology from the University of Calgary. He did his post-doctoral training in clinical chemistry at the University of Utah, and went on to become Vice President, Technical Director, and National Director of the Substance Abuse Testing Laboratory (SAMHSA accredited) at Dynacare Kasper Medical Laboratories in Edmonton and later, Vice President, Laboratory Operations and Diagnostics for Isotechnika Inc., an Edmonton-based drug development company.

Dr. Kinniburgh was the inaugural President of the IFCC North American Federation of Clinical Chemistry and Laboratory Medicine (NAFCC, 2015–2017) and as part of that role, also the representative to the IFCC Executive Board (2015–2017). He was President of the Canadian Society of Clinical Chemists from 2014 to 2015 and served previously as their Treasurer. He is currently President of the Alberta Association of Clinical Laboratory Doctoral Scientists and has served as President of the Alberta Society for Human Toxicology and the Alberta Society of Clinical Chemists.

Dr. Kinniburgh has also served on a number of committees related to laboratory medicine provincially and nationally and currently sits on the Canadian Leadership Council on Laboratory Medicine and the LabCANDx Steering Committee, an organization established to promote the value of laboratory medicine. He is a team leader for the College of American Pathologists Forensic Drug Testing Laboratory Accreditation program, and a member of the American Association for Clinical Chemistry Education

Core Committee. He has also served on several organizing committees for local, national and international scientific conferences. In 2010, Dr. Kinniburgh was awarded the CSCC Award for Outstanding Contributions to Clinical Chemistry.

As part of his commitment to research and training, Dr. Kinniburgh is co-coordinator for the medical laboratory science course Applied Toxicology at the University of Alberta and lectures in the University of Calgary Master of Biotechnology program. He also participates in the training and supervision of master's, PhD, and post-doctoral students as well as clinical biochemistry trainees. He is active in a number of professional societies, has published more than 30 articles and reports, made numerous scientific presentations to the medical and technical community and to the public sector, and has consulted to government groups and the private sector.

Dr. Kinniburgh lives in Calgary, Alberta, Canada with his wife Lynne, a retired nurse, and they have two grown children and five young grandchildren. His passion is laboratory medicine, but he has many other interests and hobbies including sailing, motorcycling, reading and being an amateur handyman.

Treasurer
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Dr **Tomris Ozben** (Ph.D., D.Sc. Med. Lab Specialist) is a full professor at the Dept. of Clinical Biochemistry, Faculty of Medicine, Akdeniz University, Antalya Turkey. She obtained her BSc. degree from American University "Robert College" in Istanbul, Turkey; Ph.D. in Biochemistry from Ege University, Izmir, Turkey; and Specialty in Clinical Biochemistry from Marmara University, Istanbul Turkey. During her tenure at Akdeniz University, she has been Vice Rector, Director of Research Funds, Chairman of the Dept. of Clinical Biochemistry and Founding Director of Central Laboratory at Akdeniz University Hospital which includes Clinical Chemistry, Microbiology, Virology, Toxicology, Haematology, Immunology, Coagulation, Therapeutic Drug Monitoring, Emergency, Preanalytical and Point of Care Services. She has worked for 10 years in the Ethical Committee of Akdeniz University Hospital and Medical School on themes concerning drug research in clinical trials.

Dr Ozben has served as the Commission Member of the Turkish Ministry of Health for restructuring Medical Education and Teaching and Member-Elect of the Turkish High Educational Council for four years. She has been appointed as the National Scientific Representative by the Scientific and Technological Research Council of Turkey (TUBITAK) with the approval of the Ministry of Foreign Affairs since 2008. Currently, she is one of the Directors at Akdeniz University Hospital Central Laboratory and principal investigator of many research projects.

Teaching Clinical Laboratory Medicine to medical and non-medical students, residents, and fellows has been a primary activity in Dr Ozben's career. She delivers lectures on a variety of topics to clinicians and laboratory scientists. She serves as a mentor to numerous graduate students and takes part at Post-Graduate Education Programmes (Specialty and PhD) at Akdeniz University. In 2003, she received "Akdeniz University Outstanding Contribution" award, and in 2006 "Akdeniz University Science" award. In 2002, she received AACC Van Slyke Society and in 2005 AACC TDM/Toxicology Division awards. In 2016, she received "Distinguished Abstract for Scientific Excellence" award of AACC's National Academy of Clinical Biochemistry (NACB). She is the author of 240 peer reviewed manuscripts, 13 book chapters and editor of 3 books published by the International Publishers (Plenum Press, New York; IOS Press, Amsterdam). She has attended more than 200 international congresses as an invited speaker.

Dr Ozben has organised several International Congresses, Courses, Workshops, Young Scientists Forums and Meetings supported by IFCC-EFLM-FEBS-IUBMB-

BCLF-NATO-TUBITAK and served as an Organising and Scientific Committee Member of several EuroMedLabs (Innsbruck 2009; Berlin 2011; Milan 2013; Paris 2015); WorldLabs (Fortaleza 2008; Berlin 2011; Istanbul 2014); IFCC General Conferences (Antalya 2008; Corfu 2010; and Kuala Lumpur 2012); Steering Committee Member of IFCC-Roche Bergmeyer Conferences (2008-2015); Member of the International Advisory Board of the 18th ICCCLM 2002, Kyoto, Japan; IFCC/AACC 2005, Orlando, USA; EuroMedLab 2005 Glasgow, UK.

Dr Ozben has been the President (2000-2003), Past-President (2003-2006) and Executive Board member (2006-present) of the Balkan Clinical Laboratory Federation (BCLF); Advisory Board member of Forum of European Societies of Clinical Chemistry and Laboratory Medicine (FESCC; 2001-2008); Advanced Courses Committee member of the Federation of European Biochemical Societies (FEBS; 1997-2001); American Biographical Institute, Research Board of Advisors since 2001. She is a member of the Editorial and Advisory Boards of many Scientific Journals, reviewer for several journals, and scientific projects evaluator for the Italian Ministry for University Education and Research (MIUR; 2003-present), Ministry of Science and Environmental Protection of Republic of Serbia (2005-present) and Israel Science Foundation (2012-present).

Dr Ozben served actively to IFCC since 2001, as the Chair of the IFCC Congresses and Conferences Committee (C-CC) (for two consecutive terms; seven years); previously as Full Member (three years) and Corresponding Member (three years) of C-CC. She has completed her service to IFCC as the Treasurer elected by the IFCC Council between 2015-2017. She has been re-elected as the IFCC Treasurer starting service from 2018 till the end of 2020. She is a member of the Board of Directors of the IFCC Foundation for Emerging Nations (FEN), a non-profit making Charitable Trust established in 2016 under Swiss Law. The Foundation is devoted to fund raising and supporting programs that help to improve the quality and delivery of laboratory medicine services, particularly in emerging nations.

She is married to Professor Dr Aldo Tomasi having a daughter and twin sons, all three of whom are medical doctors.

Corporate Member Representative
Rolf Hinzmann

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Rolf Hinzmann, (MD, PhD), is 'Head of Global Medical Affairs, Glucose Monitoring and Science' at Roche Diabetes Care and is based in Mannheim, Germany. The focus of his work is on self-monitoring of blood glucose and continuous glucose monitoring and the role of technology, combined with digital solutions, for achieving sustainable behavioral change in patients with chronic disease.

Dr. Hinzmann studied Medicine and Biochemistry at Hannover Medical School and Hannover University, Germany, and completed his PhD in Biochemistry at the Max Planck Institute for Experimental Endocrinology in Hannover. Thereafter, he worked in the field of laboratory diagnostics (clinical chemistry, immunology, haematology, immunohaematology, blood banking, microbiology, serology, molecular biology) and internal medicine at Hannover Medical School and qualified as Clinical Pathologist (in German: Arzt für Laboratoriumsmedizin).

He continued his medical career in the in-vitro diagnostic industry where he spent over 20 years in various management positions at Beckman Coulter as a European Scientific Marketing Manager, at Sysmex Europe as Medical Director Europe, and since 2010 in the above-mentioned position at Roche.

Dr. Hinzmann has many publications in the field of clinical chemistry, haematology and diabetes and is a requested lecturer at scientific conferences. Several times he was rated distinguished speaker by the American Association of Clinical Chemistry (AACC).

His special interests are evidence-based medicine, cardiovascular disease, diabetes and metabolism, standardization of laboratory tests, point-of-care testing, self-empowerment of patients and behavioral change, didactics in medicine and philosophy of science.

Dr. Hinzmann held various positions in the IFCC: Corporate Representative of the Executive Committee of the Scientific Division (2001-2006), Corporate Representative of the Executive Committee of the Education & Management Division (2007-2012), and Member of the Task Force POCT (2013-2014).

Since 2015 Dr. Hinzmann has acted as the interface between IFCC and the in-vitro diagnostic industry as Corporate Representative at the IFCC Executive Board.

Regional Federation Representative:
Prof. Adekunle B OKESINA

Department of Chemical Pathology and Immunology
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Professor **Okesina** graduated with MBBS degree from the University of Lagos in 1980. He held a clinical attachment at the Institute of Neurology Queens Square London and East Surrey Hospital between 1987 and 1988., He became Fellow of the National Postgraduate Medical College of Nigeria (NPGMCN) in 1988 and of the West African College of Physicians (WACP) in Chemical Pathology in 1989. From 1991 to 1993, he was a Commonwealth Medical Research Fellow in Clinical Endocrinology at Hammersmith Hospital and Royal Postgraduate Medical College in London. He was appointed Lecturer 1 at the University of Ilorin in 1989, Reader in 1994 and full Professor in 2000. He was appointed Consultant Chemical Pathology Unilorin Teaching Hospital in 1989. He was visiting lecturer to University of Transkei (Walter Sisulu University) in South Africa between 1997 and 2000. Professor Okesina was former Vice-Chancellor, Osun State University Nigeria.

Prof. Okesina has been involved with the annual revision and update courses of NPGMCN and WACP since 1993. He was Member of the Faculty Board of Pathology from 1993 to 1997 and Member of the Senate, NPGMCN from 2007 to 2011. He was Chairman, Faculty of Pathology of WACP from 2007 to 2011 and Chief Examiner for Faculty of Pathology, WACP from 2011 to 2013.

Prof. Okesina has served as external examiner to many Universities in Nigeria and Africa, including, Universities of Lagos, Ibadan, Jos, Ahmadu Bello, Port Harcourt, Calabar, Cape Peninsula South Africa, Nairobi Kenya and Ghana. He is also a member of the accreditation team to visit the University of Ghana Teaching Hospital, University of Gambia Queens Hospital and many Universities and Teaching Hospitals in Nigeria.

Prof. Okesina has won several academics distinctions and scholarships, including the Oyo State Merit Scholarship Award and the Commonwealth Medical Fellowship, which he spent in Britain as a Medical Research Fellow. He has over 80 publications peer-review journals. His research interest is in diabetes mellitus and chronic non-communicable diseases. He has trained more than 14 specialists in Chemical Pathology out of which four have become Professors.

Prof. Okesina was the National President of Association of Clinical Chemists of Nigeria 2007 to 2016 and the President of the African Federation of Clinical Chemistry (AFCC) from 2013 to date. He was appointed Foundation Fellow of the College of Pathology of East Central and South Africa (COPECSA) in 2014.

Prof. Okesina is married with children. He is a charter member of Ilorin Central Lions where he received many National and International Awards for services to the community.

Regional Federation Representative:
Prof. Abderrazek HEDHILI

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Professor **Abderrazek Hedhili** is Professor of Toxicology at the Faculty of Pharmacy of Monastir and at the Faculty of Medicine of Tunis and Health Institutes. He is Head of the Biology & Toxicology Laboratories in the Tunisian Poisoning Control Center Centre Mahmoud Yacoub de Medecine d'Urgence; Chair of the Laboratory of Toxicology & Environment research LR12SP07; Toxicologist consultant for the Tunisian ministries of Health, Social Affairs and Environment, member of the Tunisian Environmental Agency (ANPE) and of the Tunisian control Agency (ANCSEP); member of the Board of Directors INAS and Toxicologist expert for many international organizations; WHO advisor on drugs abuse; member of the OIT (atmospheric and work polluters) and of the Arab Organization of Work (polluters in the work areas) .

Prof Hedhili has been active in the promotion of Clinical Chemistry and Laboratory Medicine throughout the world and in particular in the Arab countries and in Africa. His research and professional activities have sizable impact on Clinical Chemistry in general and toxicology in particular. He has been designed as member of the International Scientific Board of IFCC congress (Berlin 2011 and Istanbul 2014).

Since 1998, Prof Hedhili activities include the organization of several international (Arab, African and Francophone) and national (15 annual "Journées Nationales de Biologie Clinique", JNBC) conferences, workshops, symposia and other scientific activities). In addition, he contributed to the organization of the Congresses of the Arab Federation (AFCB) in Morocco (2000), Tunisia (2004), Syria (2006), Lebanon (2009), Jordan, Sudan (2015) and 2nd IFCC Conference (Sousse –Tunisia, 2004), and the FIFBCML conferences in Morocco (2008) and Tunisia (2010).

Prof Hedhili is member of many International Journals as a scientific board member. He is the author and co-author of 80 published articles and he is responsible of the Laboratory of Toxicology & Environment research (50 researchers) and have supervised more than 50 researchers (thesis projects, masters). His mainly research areas are: pesticides, mycotoxins, drug abuse, chemical risks, trace elements, drug monitoring, environmental pollutants, bio and chemical hazards, impact of toxic elements on biological and clinical parameters.

Prof Hedhili has been the general secretary (1999-2005) and president of the Tunisian Society of Clinical Biology (2005-2011). He served as Secretary, President, Past President and Vice-President (2016) of the Arab Federation of Clinical Biology (AFCB) where currently he is President of the Scientific Committee. He was President, Vice-President and member of the Federation International Francophone de Biologie Clinique et de Medicine du Laboratoire, (FIFBCML). He was President of the Tunisian

Friendly Pharmacists and General Secretary and Vice-President of Tunisian pharmacists Council (since 2011). Prof Hedhili was IFCC representative of the Tunisian Society(2005 -2011), Corresponding Member of the IFCC C-CC and of the WG eNews, funding member of the AFCB. Between 2005 and 2011, as representative of the Tunisian Society, hespearheaded 2 IFCC sponsored activities in Tunisia . He is an elected member of the French Academy of Pharmacists since September 28, 2016.

Regional Federation Representative:
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Prof **Sunil Sethi** (MBBS (S'pore), M.Med (Int. Med), MRCP(UK), FRCPath, MAACB, PhD) is Senior Consultant and Head of Clinical Chemistry at the Department of Laboratory Medicine at the National University Hospital (NUH), Singapore. He graduated from the National University of Singapore and completed his specialist degree in internal medicine with the Masters of Medicine (Internal Medicine) and the Fellowship of the Royal College of Physicians (UK). He subsequently went on to achieve his PhD in Clinical Biochemistry from the University of Surrey, United Kingdom, with his research work focused on postprandial lipid and lipoprotein metabolism. He is a Fellow of the Royal College of Pathologists (FRCPath) in Chemical Pathology.

As Associate Professor in the Department of Pathology at National University of Singapore, Prof Sethi is zealous in imparting his knowledge and experience to students. Besides his current appointments, he also holds esteemed positions in numerous boards and committees and he is the current President of the Singapore Association of Clinical Biochemists (SACB) and the President of the Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB).

In addition to his administrative responsibilities in the clinical laboratory, Prof Sethi conducts a regular lipid and metabolic disorder clinic at the National University Hospital, Singapore. Prof Sethi has a particular passion and research interests in laboratory workflow, laboratory automation, laboratory informatics and in clinical biomarker utilization.

Regional Federation Representative
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Prof. **Sverre Sandberg** (MD, PhD, Specialist in Laboratory Medicine) is director of NOKLUS, a Norwegian organisation for quality improvement of laboratory activity (www.noklus.no) which serves about 80 hospital laboratories and about 3000 users of POC equipment outside hospitals (GP offices, nursing homes, oil platforms etc); chair of SKUP, Scandinavian Evaluation of Laboratory Equipment for Primary Health Care (www.skup.nu);
and director of the Norwegian Diabetes Registry. He is director of the Norwegian Porphyria Centre (NAPOS) (www.napos.no). He is professor at the Institute of Global Health and Primary Health Care at the University of Bergen. From 2002 – 2012 he was director of Laboratory of Clinical Biochemistry at Haukeland University Hospital in Bergen.

Prof Sandberg was from 1996 – 2002 chair of the Committee on Evidence-Based Laboratory Medicine and from 2002 – 2008 chair of The Global Campaign of Diabetes Mellitus in IFCC (International Federation of Clinical chemistry and Laboratory Medicine). Since 2000 he has been a board member of EPNET (European Porphyria Network), a partly EU-funded project. From 2012-14 he was president of the European Organization for External Quality Assurance in Laboratory Medicine (EQALM). In 2009 – 2014 he was chair of the Scientific Committee in EFLM (European Federation of Clinical Chemistry and Laboratory Medicine). From 2014-15 he was vice president and from 2016-2018 president of EFLM. He is chair or member of different working groups in EFLM and IFCC.

Prof Sandberg has written peer reviewed papers and book chapters and given international lectures in his fields of interests: evidence based laboratory medicine, quality improvement of point of care instruments, biological variation, performance specifications in laboratory medicine, quality assurance of the total testing process, laboratory aspects of diabetes, porphyria and photobiology. He has supervised numerous PhD students and received some awards.

Prof Sandberg likes the sound of raindrops and of the wind soughing through the trees.

Regional Federation Representative:
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Rosa Isabel Sierra-Amor (PhD, MSc), Clinical Biochemist, received her MSc. and PhD degrees from the Autonomous University of México, UNAM. She did a fellowship in biochemistry at the Department of Endocrinology and Metabolism, Jewish Hospital and Washington University School of Medicine in St. Louis Mo. USA (1982), and a post graduate course in clinical chemistry, University of Reading, England (1986). From 1980 to 1990, she worked as faculty and Head of the Laboratory, Nephrology and Mineral Metabolism Department of the National Institute of Medical Sciences and Nutrition SZ in Mexico City; from 1990-2003, she directed the Bone and Mineral Metabolism Research Laboratory at the Division of Neonatology, Department of Pediatrics, University of Cincinnati, and Children´s Hospital Medical Center in Cincinnati, Oh. USA. Since 2004 she is board member of Laboratory LAQUIMS, S.C. and QC/QM Consultant.

In Mexico, Dr Sierra-Amor has collaborated closely with the Mexican Accreditation Entity as member of the National Assessment Panel, and former Board Member www.ema.org.mx; she acted as external consulting member for the postgraduate program in clinical laboratory science at the University of Veracruz. With BIO RAD Mexico and Latin America, she initiated in 2006 the International Conference on Quality with the auspices of IFCC; she has lectured on laboratory accreditation, quality topics, and bone and mineral metabolism in Mexico, Latin America, and internationally. In 2012, she was elected president of the Mexican Association of Clinical Laboratory Sciences (2013-2014) www.cmclcmx.org

In IFCC, Dr Sierra Amor has participated as member of the Executive Board (1997-2002 and 2014-2017), e.JIFCC WG News, JIFCC Editorial Board; Awards Committee member; and WG-IANT/RIA member. She served as memberof the WHO Laboratory Services Advisory Panel (1997-2001); she is member of the AACC Latin American WG (since 2010); former AACC Treasurer, Materno-Fetal Division; former Chair of Membership awards, Ohio Valley Section; and former AACC International Relations Committee member.

Dr Sierra-Amor was awarded with the Latin American Ames Award (1993), the AACC International Fellowship Award (1996). She has also received awards from several other professional and health organizations from Mexico.

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Ann Gronowski, Ph.D., is Professor in the Departments of Pathology & Immunology and Obstetrics & Gynecology at Washington University School of Medicine in St. Louis Missouri, USA. She is Co-Medical Director of the Clinical Chemistry and Serology/Immunology laboratories at Barnes-Jewish Hospital. Dr. Gronowski received her Ph.D. in Endocrinology- Reproductive Physiology from University of Wisconsin, and is a diplomate of the American Board of Clinical Chemistry.

Dr. Gronowski has held a number of professional representative roles in the United States including AACC board of directors, AACC treasurer and AACC president. She has also served as president of the American Board of Clinical Chemistry (ABCC) and secretary/treasurer of the Commission on Accreditation for Clinical Chemistry. She currently serves as editor for the clinical case studies feature in the journal Clinical Chemistry.

At the international level, Dr Gronowski has served as the AACC National Representative to IFCC, served on the IFCC Award's Committee and as chair of the IFCC Task Force on Ethics.
Dr. Gronowski has received a number of honors including the AACC Young Investigator Award in 1996, the AACC award for Outstanding Contributions Through Service in 2010, and in 2016 she received the AACC award for Outstanding Contributions Through Education.

Dr. Gronowski's research focuses primarily on the laboratory diagnostics of endocrinology and reproductive physiology with a particular emphasis on maternal fetal medicine. In particular, her laboratory has examined markers of pre-term delivery, markers of ectopic pregnancy and the analytical and clinical complexities of measuring hCG. She edited a book entitled Handbook of Clinical Laboratory Testing During Pregnancy. Dr. Gronowski has a passion for teaching and mentoring and a long-standing interest in biomedical ethics.

1.4. CLINICAL CHEMISTRY AND LABORATORY MEDICINE: ROLE IN HEALTHCARE

Clinical Chemistry and Laboratory Medicine is the application of chemical, molecular and cellular concepts and techniques to the understanding and the evaluation of human health and disease. At the core of the discipline is the provision of results of measurements and observations, together with interpretation and informed clinical advice relevant to:

- The maintenance of health
- The cause of disease
- The diagnosis of disease
- Predicting and monitoring the response to therapy
- Follow up investigations

The discipline is committed to deepening the understanding of health and disease through fundamental and applied research. The use of chemical techniques to examine biological fluids may be traced back more than 300 years. However, it is only in the past 100 years that reliable quantitative assays have become established for constituents in blood and urine. It was in the late 1940s that the first scientific societies and the first journals bearing the title Clinical Chemistry were established. The International Federation of Clinical Chemistry (IFCC) was established in 1955.

In the past 60 years there has been a rapid expansion in Clinical Chemistry and also in other disciplines of Laboratory Medicine including Haematology, Transfusion Medicine, Immunology, Medical Microbiology and Clinical Genetics. These disciplines often use similar technology and may be used in combination to assist the investigation and management of patients. As a result the term Laboratory Medicine is becoming more widely adopted, although its exact definition varies between countries. In recognition of this development the Federation changed its name in 1996 to the International Federation of Clinical Chemistry and Laboratory Medicine, although it maintained the abbreviation IFCC. Today it is widely accepted that as much as 70% of clinical decisions in healthcare are informed by Laboratory Medicine.

Advances in Clinical Chemistry and Laboratory Medicine have occurred as a result of improved knowledge and understanding of the pure sciences (mathematics, physics, chemistry); related medical sciences (biochemistry, physiology, genetics, cellular and molecular biology); and technology (instrumentation, automation, information technology, nanotechnology). As a result, modern medical laboratories incorporate highly sophisticated equipment and methodologies. High throughput analytical platforms capable of performing tens of thousands of tests per day sit alongside state of the art mass spectrometers, cell counters and micro-array systems. Consequently, modern medical laboratories require highly trained and skilled medical practitioners, scientists and technologists, including specialists in analysis, clinical application, information management, proteomics and bioinformatics.

Furthermore, the advances in technology have enabled increasing amounts of Clinical Chemistry and Laboratory Medicine to be delivered outside medical laboratories, closer to the patient. Point of care testing now occurs in hospital wards, clinics, doctor's offices, community pharmacies, places of work and in the home. Whilst point of care testing is designed for use by non-specialists, considerable education and support is required to ensure high quality results and an understanding of their clinical significance. The diversification of Clinical Chemistry and Laboratory Medicine has created a natural and positive partnership between Laboratory Medicine specialists in clinical laboratories and

in the in-vitro diagnostics industry. Typically, original science in research laboratories leads companies to develop new diagnostic products that are translated into service and validated in medical laboratories

In the modern era of Clinical Chemistry and Laboratory Medicine results are not enough. The quality of results has to be assured. Quality assurance is an all-embracing agenda that includes:

- Internal quality control
- External quality assessment
- Quality management and laboratory accreditation
- International method standardisation to the highest level of traceability
- Harmonisation of nomenclature, properties and units

Quality results are still not the finished product because they need to be converted into knowledge that is then used to shorten patient pathways and lead to improved patient outcomes. Knowledge management includes:

- The application of evidence-based medicine
- The development of practice based clinical guidelines
- Participation in multidisciplinary teams
- Translational research
- The development of personalised medicine
- Promoting the contribution of Clinical Chemistry and Laboratory Medicine to healthcare

As the leading worldwide professional organisation for Clinical Chemistry and Laboratory Medicine IFCC has a responsibility to be at the forefront of international scientific and clinical development whilst providing education and management support to its members to improve the quality of their service and to convert that quality into transferable and clinically valuable knowledge. The following paragraphs on the IFCC Mission, Strategic Plan and Strategic Objectives explain how IFCC discharges that responsibility.

1.5. MISSION STATEMENT AND AIMS OF IFCC

Mission statement

Our mission is to be the leading organisation in the field of Clinical Chemistry and Laboratory Medicine worldwide.

Aims of IFCC

"Through leadership and innovation in science and education we will strive to enhance the scientific level and the quality of diagnosis and therapy for patients throughout the world. We will build on the professionalism of our members to provide quality services to patients. We will aim to communicate effectively with our members, other healthcare providers and the public to ensure knowledge of our excellent scientific and educational achievements. We will focus always on scientific standards, publications, education and communications. We will communicate effectively through a variety of electronic media. We will hold outstanding congresses and conferences to bring the efforts of IFCC to the global community".

The specific aims of IFCC are:

- To complement and enhance the activities of its members
- To transcend the boundaries of a single nation or a single corporation, or a geographical, cultural or linguistic group of nations in developing the field of Clinical Chemistry and Laboratory Medicine
- To provide a forum for standardisation, in the broadest sense, at a high level
- To disseminate information on "best practice" at various levels of technology and of economic development
- To promote a vision of Clinical Chemistry and Laboratory Medicine that extends beyond traditional narrow perceptions of the field.

IFCC achieves these aims by:

- Publishing information and guidelines relating to the education of clinical chemists and laboratory physicians
- Defining principles and publishing recommendations for the standardisation of analytical procedures and for the interpretation of analytical results
- Promoting meetings of clinical chemists and laboratory scientists through congresses, symposia and workshops in Clinical Chemistry and Laboratory Medicine, and by encouraging dialogues with clinicians on matters of common interest.

IFCC has a major responsibility for co-ordinating the development of Clinical Chemistry and Laboratory Medicine on an international basis. In fulfilling this responsibility, it cooperates with many other international, regional and national organisations, particularly in the fields of education and standardisation. IFCC also assists and encourages the creation and organisation of national societies of Clinical Chemistry and Laboratory Medicine in countries where these do not yet exist and establishes and maintains contact with individual clinical scientists in parts of the world where there is no professional body specifically concerned with Clinical Chemistry and Laboratory Medicine. IFCC is a non-political organisation that believes in high ethical standards, equal opportunities and freedom of movement for laboratory professionals around the nations of the world.

In January 2016 IFCC convened a strategic workshop to re-examine and update its Mission Statement and Aims. This workshop resulted in a new Vision Statement and a series of eight Areas of Expertise to support the Vision Statement. These are listed below:

Vision Statement
'We advance excellence in laboratory medicine for better healthcare worldwide'.

Areas of Expertise
The eight areas of expertise to support the IFCC Vision Statement are:
- Applying science to promote harmonization and innovation in laboratory medicine by drawing on worldwide expertise
- Developing and delivering educational programmes globally to foster expert laboratory medicine professionals
- Using evidence-based processes to define and promote the value of laboratory medicine in healthcare worldwide
- Being responsive to the unique and regional needs of our Members
- Being open-minded and aware of innovations and new developments in the science of laboratory medicine
- Striving for efficiency and effectiveness within our organizational structure
- Being transparent and responsible in our financial affairs
- Being mindful of the international ethical codes pertaining to our activities.

In formulating its strategic action plans for 2017 and beyond the Executive Board takes heed of both the original IFCC Mission Statement and Aims and the updated Vision Statement and Areas of Expertise.

1.6. OVERALL STRATEGIC PLAN FOR IFCC

The original IFCC strategic plan was conceived and refined during the period 1990-1994 by the Executive Board and reviewed by National Societies and Corporate Members. This strategic plan was subsequently revisited and revised by successive Executive Boards. The ongoing strategic plan is intended to achieve a number of principal objectives, with the priorities and tactical implementation being guided by the IFCC Membership. These internal and external changes are all intended to maintain IFCC as a valid and credible resource of expertise for the improvement of patient care through laboratory medicine, and to fulfil our vision: "We advance excellence in laboratory medicine for better healthcare worldwide".

Principal objectives of the strategic plan:
- To improve and maintain the multidisciplinary and international leadership of IFCC in standardisation activities.
- To ensure that its standardisation and research activities are more oriented towards the patient and towards the health of the individual.
- To ensure consistency between its activities and the stated expectations of the IFCC members, recognising the needs of both developed and developing countries.
- To develop and maintain IFCC communications, to promote publications and products from IFCC, including publications and reference materials, and to set up joint promotion activities with international organisations such as WHO, WASPaLM, IUPAC, IRMM, CLSI and others.
- To establish collaborations, joint meetings and projects with international organisations having interest in the field of Laboratory Medicine such as IUPAC, ISTH, IATDMCT, IRMM, CLSI.
- To promote IFCC through international and regional congresses.
- To promote Members' activities.
- To encourage professional development of individuals in National Societies and Corporate Members, and the recruitment of new members and experts to IFCC functional units.

- To develop and maintain Public Relations.

Each new IFCC Executive Board revisits and interprets these principal objectives so that they are fresh and relevant to current issues, challenges and opportunities. The result is a series of specific strategic objectives for the three-year period of an Executive Board.

1.7. STRATEGIC OBJECTIVES 2015-2017

The Executive Board for 2018-2020 has identified the following strategic objectives for its term of office. They are in accord with the overall IFCC strategic plan and the principal objectives outlined in Section 1.6. They are intended to be in addition to the ongoing work of Divisions and the Regional Federations.

Introduction
This document was developed from a focused meeting of the Executive Board (EB) held in February 2018. It represents the consensus of EB on its priorities for the next three years. The document concentrates on EB priorities and it is intended to complement the planning and actions of IFCC Divisions, Committees, Working Groups and Task Forces. Some of the identified priorities may overlap with the work of Divisions and Regional Federations, and dialogue is required to ensure a co-ordinated approach.

The document identifies 16 strategic actions which have been classified into the following four broad areas:
- A. Supporting our Membership
- B. Broadening our Horizons
- C. Improving the Quality of Laboratory Medicine
- D. Improving the effectiveness of IFCC

Each strategic action will be assigned a timeline over the period February 2018 – December 2020. Each strategic action will also be assigned to a member of EB who will lead that particular initiative. Progress with, and review of the strategic development plan will be an integral part of all future EB meetings during 2018-2020. It is intended that the plan will be modified in the light of changing circumstances.

Area A: Supporting our Membership

Number	Strategic Action
1	a) Vertical integration of educational programs b) Continue to publicize educational resources available from IFCC c) Work with National Members and Federations to make better use of the educational resources available from IFCC d) Continue to promote 2-way communication with National Members and Federations and coordinate activities. e) Continue to develop and present a series of webinars to meet the needs of Members.
2	a) Maintain and improve communication with COLABIOCLI and Members in Latin America, as required. b) Maintain and improve communication with AFCB and Members in Arab countries, as required. c) Maintain and improve communication with AFCC and Members in African countries, as required. d) Maintain and improve communication with EFLM and Members in the European countries, as required. e) Maintain and improve communication with APFCB and Members in the Asia-Pacific countries, as required. f) Maintain and improve communication with NAFCC and Members in the North American countries, as required.
3	Conduct a survey of age, sex, geography and corporate membership for all IFCC functional groups, and develop a plan to address any disparities.
4	Establish a Working Group made up of Corporate Members to identify and prioritize their needs, and possible projects, along with recommended membership. Assign to appropriate Division.
5	Promote to Corporate Members the use of the IFCC registry of experts.

Area B: Broadening Our Horizons

Number	Strategic Action
6	Translate the principles of metrology to one new project each year in areas of laboratory medicine other than clinical chemistry. Work though Divisions.
7	Establish at least one new collaboration each year with an international clinical organisation. An international scientific association, the European Society for Clinical Cell Analysis (ESCCA, President Anna Konstanti), is interested to join IFCC.
8	Invite organisations from outside laboratory medicine to contribute to the IFCC meetings to promote better interaction with healthcare professionals. Project based.
9	Reach out to LIS vendors to collaborate on symposia presentations and development guidelines and standards of practice. Identify possible projects to standardize and harmonize post analytical LIS processes. Encourage IFCC Corporate membership.
10	Explore the use of electronic meetings by IFCC functional groups. CPD to into this.
11	Explore the potential evolution of congress format to include electronic participation. CCC to look into this.

Area C: Improving the Quality of Laboratory Medicine

Number	Strategic Action
12	In conjunction with others develop a route to laboratory accreditation for developing countries - DQCLM
13	Identify the objectives with respect to a media campaign to promote the IFCC and the value of lab medicine.
14	Strengthen the links and collaboration with the World Health Organization (WHO)

Area D: Improving the Effectiveness of IFCC

Number	Strategic Action
15	Performance evaluation of functional units including EB
16	Develop a new fee structure and implementation plan for Affiliate members

1.8. A BRIEF HISTORY OF THE IFCC

1.8.1. Introduction

In 1952, Professor E J King of the Royal Postgraduate Medical School in London suggested that the then emerging national societies of clinical chemistry should organise into an international body under the auspices of the International Union of Pure and Applied Chemistry (IUPAC). This was accomplished on July 24, 1952, at the Second International Congress of Biochemistry in Paris, by the formation of the International Association of Clinical Biochemists. A year later, in Stockholm, it was resolved to change the name to the International Federation of Clinical Chemistry, and this was formally adopted at the next meeting which took place in 1955 in Brussels.
The initial objectives of the Federation were to "advance knowledge and promote the interests of biochemistry in its clinical (medical) aspects". In the early years, IFCC was closely associated with the IUPAC Commission (later Section) of Clinical Chemistry, and initially, the Committee of IFCC comprised the members of the IUPAC Commission. It was recognised, however that the IFCC should become independent, but would retain its contacts with IUPAC through affiliation as an Associate Member.
This was accomplished in 1967, when the two organisations were formally separated.
With time, the organisational structure of IFCC developed so that its efforts in science, education, and publishing, as well as its financial affairs, and congress activities were dealt with by Divisions or Committees and, where appropriate, supported by other Committees and groups responsible for specific tasks. IFCC is now a Federation of 89 Full Member national societies of Clinical Chemistry and Laboratory Medicine and 9 Affiliate Members, representing about 45.000 individual clinical chemists, laboratory scientists, and laboratory physicians and 52 Corporate Members covering the major areas of clinical laboratory developments. In 2002 John Lines and Jacques Heeren published "IFCC Celebrating 50 Years". This book is a more comprehensive history of the Federation and is available from the IFCC office.

1.8.2. IFCC Presidents

The history of IFCC must include reference to the eminent clinical chemists who have served as President and guided its development. Professor E J King conceived the idea of the Federation, brought it into being, and guided it through its early years to become the group to which all national societies of Clinical Chemistry could look for guidance. His untimely death created a vacuum which Professor Monroe Freeman ably filled for three years.

He was followed by Professor J E Courtois until 1967, during which time the statutes and bylaws, upon which the whole working of IFCC is based, were created. During the seven to eight years of the presidency of Professor Martin Rubin, IFCC became accepted as a major international organisation and was recognised as a non-governmental organisation in official relations with the World Health Organisation (WHO). It became a member of the Council of the International Organisations of Medical Sciences and established its own regular Newsletter, developed education programmes in South America; formed Expert Panels became authoritative groups in their own fields, and established constructive relationships with industry.
In 1976, Dr Jörg Frei was elected President after an eight-year period as Secretary.

Dr Rene Dybkaer followed him in 1979 after six years as Vice-President. During these years the collaboration with industry was formalised by creation of Corporate

Membership, IFCC Archives were established, Congress Guidelines were formulated, an IFCC Travelling Lectureship implemented, a major educational programme conducted in Thailand, and the IFCC Distinguished International Services Award established in addition to the earlier Distinguished Clinical Chemist Award. As a new concept, a General Conference of IFCC Officers, Divisions and Committees, together with Associate Members, was launched in Denmark in 1982. Finally, a Task Force prepared new Articles for the Federation which were approved by Council in 1984.

Dr Donald Young became President in 1985, after a three-year term as Vice-President. During his six years as President, Dr Young reorganised the committee structure of the IFCC. The previous Expert Panels were redefined as Committees and an integrated structure was formed to allow better communications and delegation of responsibility and activity. Dr Young initiated a further review and modification of the IFCC Statutes which was completed in 1993. During Dr Young's tenure IFCC initiated the publication of its own journal - Journal of the International Federation of Clinical Chemistry. A broader interpretation of clinical chemistry to include other areas of laboratory medicine was developed. Formal associations were initiated with clinical chemistry organisations in Latin America and the Asian and Pacific region.

Professor G. Siest, who was President from 1991 to 1996, worked with the Board and Members to develop a Strategic Plan which would guide the organisation into the 21st Century. This involved the identification of six key Strategic issues, relating to: Scientific Credibility, Linkage of Clinical Chemistry to Improved Patient Care, Communication, Promotion of IFCC Products and Services, People and Succession, and Finance. New agreements with the European region (FESCC) and the Latin American Region (COLABIOCLI) were signed. The strategic plan was endorsed by the IFCC Council in 1996.

From 1997-99 the President was Professor Matthew McQueen who was previously a member of the Scientific Committee from 1982-87, Treasurer from 1989-90 and Vice President 1991-96. During his Term the Executive Board translated the Strategic Plan into specific actions. These included increasing scientific activity in the areas of standardisation and reference materials and improved scientific co-operation with other international laboratory professional organisations. The Education and Management Division expanded its role in the pre-analytical and post-analytical phases, while the Communication and Publications Division restructured to meet the challenges of electronic publication. One highlight was the very important name change to the International Federation of Clinical Chemistry and Laboratory Medicine, highlighting the clinical relevance and importance of our profession. The Statutes of the Federation were modified to implement "term limits" for members of the Executive Board. Representatives from the Corporate members were formally included in the structure of each Division. This Executive Board successfully concluded discussions with the World Association of Societies of Pathology and Laboratory Medicine producing a joint policy statement on "Principles of Clinical Laboratory Accreditation". This clearly stated that the Laboratory could be directed by Scientists or Physicians, with the appropriate initial qualifications and specialised post-graduate professional education and training in clinical laboratory work.

Prof. Mathias M. Müller served as President for the period 2000 - 2005, having previously served the Federation as Secretary, Vice-President, and Vice-Chair and Chair of the Scientific Division. Under his guidance the Federation continued to stress high quality scientific endeavour as the backbone of the Federation. Since 2000, the Executive

Board emphasised the interdisciplinary character of our discipline and has focused on clinically relevant topics. In this context, the establishment of reference systems for glycated haemoglobin and enzyme activity measurements as well as a global campaign for monitoring diabetes mellitus were initiated. With the growing complexity of IFCC projects, the requirement for an intellectual property policy became evident. This has been developed. A working relationship with the National Committee for Clinical Laboratory Standards/NCCLS (now known as the Clinical and Laboratory Standards Institute/CLSI) was formalised and joint NCCLSIFCC projects started. Standardisation on high metrological levels has always been a major undertaking and has contributed to the credibility of IFCC. As a consequence of this policy, collaboration with the Bureau International des Poids et Mesures (BIPM), the National Institute of Standards and Technology (NIST), the Institute of Reference Materials and Measurements (IRMM), European, American and Japanese IVD Associations, and the International Laboratory Accreditation Cooperation (ILAC) is being established for the implementation of traceability in Laboratory Medicine. New awards for significant contributions in molecular diagnostics, in education and in--patient care were created. With the opening of the IFCC Office in Milan the IFCC website was restructured becoming the main communication vehicle between the Federation and the membership.

Professor Jocelyn Hicks served as President from 2005 to 2008. She also served the Federation as Chair of the Publications Division and as Treasurer. She continued to encourage the scientific excellence for which IFCC is justifiably proud. She assembled a group of clinicians from the key diabetes bodies to develop a consensus statement regarding the use of the new standard for glycated haemoglobin. As President she worked to enhance the quality of laboratory testing worldwide with the able assistance of the Education and Management Division. Under her direction the Communications and Publications Division took public relations and communications to a new level. They, for example, published a PR brochure in many languages. She considered assistance to the lesser developed country Members to be paramount, as it is the patient who benefits. Under her leadership the Visiting Lecturer Programme was greatly expanded with the substantial grant from Abbott Laboratories. Travel scholarships to attend major IFCC Congresses were introduced with a generous grant from Roche Diagnostics Gmbh. These were awarded on a competitive basis to young scientists from developing countries. Siemens Healthcare Solutions assisted us greatly with starting a distance e-learning programme for all members, but with emphasis on topics to assist those in developing countries. A new conference that links the clinician with the clinical laboratory was stared with the substantial grant from Ortho Clinical Diagnostics. The first of these was held in Birmingham in the UK in 2008. The topic was on Cardiac Biomarkers. Two new awards were introduced, one in Laboratory Medicine and Patient Care sponsored by Ortho Clinical Diagnostics and one on outstanding contributions to Standardization sponsored by The National Institute on Standards and Technology and the Clinical Laboratory Standards Institute.
Professor Hicks developed a new programme for National and Corporate Representatives to be involved actively in the General Conference in 2008. This Conference was organised with the assistance of The Congress and Conference Committee, the Turkish Association and the IFCC Office. A successful International Congress of Clinical Chemistry and Laboratory Medicine was held in Brazil in 2008 with the able assistance of the Brazilian Association. The number of full Members grew from 72 to 83 during this period. Professor Hicks visited many of our Member countries. The number of Corporate Members also increased despite many mergers. All of these activities were made possible with the assistance of the Executive Board, the Divisions, the Committees, working Groups and the IFCC office.

Dr Graham Beastall from the UK served as President from 2009-2014, during which time the number of Full Members grew to 89 and the number of Corporate Members grew to 52. Dr Beastall increased transparency and accountability of the Executive Board to the Members. He oversaw changes to the composition of the Executive Board; the introduction of electronic voting; and the introduction of differential membership fees. Devolution of responsibility to the Regional Federations was a key programme, which greatly increased the number of individuals who are actively involved in the 'family of IFCC'. The IFCC WorldLab congresses in Berlin (2011) and Istanbul (2014) were hugely successful and the General Conferences held in Corfu (2009) and Kuala Lumpur (2012) played an important role in IFCC understanding the needs and priorities of its Members. IFCC communications and publications improved significantly during this period. A much- improved website was introduced and the quality of IFCC News and the electronic journal of IFCC both advanced. Distance learning programmes were developed and an e-Academy was conceived and developed. The Scientific Division enhanced its international reputation, especially in the area of method standardisation. The Education and Management Division increased its educational support to developing countries through a range of programmes, including the Visiting Lecturer Programme, educational scholarships and a new mentorship scheme. Dr Beastall encouraged greater focus on the clinical importance and clinical effectiveness of laboratory medicine. New cross-Divisional Task Forces were created to collaborate with international clinical organisations. Adding value to high quality laboratory medicine services through the application of 'SCIENCE' was Dr Beastall's flagship programme.

Professor Maurizio Ferrari from Italy, having previously served the Federation as Chairman of Committee on Clinical Molecular Biology Curriculum , member of IFCC Task Force on Pharmacogenetics, member of the Education and Management Division of IFCC , Chairman of the Education and Management Division, was President from 2015-2017 during a period of change and development for the profession worldwide arising from growing recognition of the importance of laboratory medicine to quality healthcare. Professor Ferrari facilitated a formal review and SWOT analysis to ensure that IFCC could position itself to respond to this changing global scene with the result that IFCC adopted a new Vision Statement, focused on advance excellence in laboratory medicine for better healthcare worldwide and a series of strategic aims and a detailed action plan. During his term in the Executive Board saw its first change in structure with the President Elect (Professor Howard Morris) joining the Board one year ahead of becoming President. The election of six Regional Federation representatives took place during this period to join a more dynamic and representative Executive Board from January 2018. The activities of the Scientific Division, Education and Management Division and Communications and Publications Division improved significantly during this period. Further influence from Professor Ferrari saw the creation of the new Emerging Technology Division, which will be operational from 2018, and the consolidation of most of the Task Forces into the Divisional structure. Professor Ferrari made 'meeting IFCC Members' a priority and he was in great demand as an expert lecturer on molecular diagnostics and as a source of advice on the future of the profession. Moreover, he considered paramount to support the lesser developed country. Professor Ferrari presided the EuroMedLab in Paris 2015, a successful IFCC General Conference in Madrid in 2016, and the first IFCC WorldLab meeting in Africa, which was held in Durban in 2017. The number of Full Members increased to 93 and there was an encouraging rise in the number of Affiliate Members to 13 during this period.

1.8.3. IFCC Office

As the scope of the Federation's activities has expanded, so has the requirement for the exchange of information and the documentation of the various activities which were taking place. As with most other professional groups, the initial secretarial functions were provided by the individual officers and scientists within the Federation.
A considerable debt is owed to these individuals and their employing organisations.
However, it was obvious to the Executive Board that for the Federation to continue its development, a Secretariat was required. The Federation was fortunate originally to be supported by Radiometer A/S of Copenhagen, which agreed to provide office space and secretarial support. This facility was generously placed at the disposal of the Executive Board and became known in 1983 as the IFCC Technical Secretariat. During this period, the Federation was fortunate in obtaining the services of Mrs Maj-Britt Petersen, who provided invaluable support, in particular for the Scientific Division. In order to facilitate the appropriate distribution of documents, the Technical Secretariat also kept a master file of names and addresses of all those who play a part in the Federation's affairs. During 1988-1990 the Executive Board devoted considerable effort to determining the role and structure of a central office. In 1990 a new Technical Secretariat was established in Nancy, France with the assistance of Prof Gerard Siest. The opening of this office was a major event for the IFCC as for the first time the IFCC employed its own staff. The Technical Secretariat was transferred into the hands of Mrs Chantal Thirion and remained in Nancy until 2001. In 2001 when additional professional administrative services were needed, the Office was transferred to Milan, Italy where it shares resources with a major Professional Conference Organiser. The IFCC Office currently employs three members of staff, Mrs Paola Bramati, Mrs Silvia Cardinale and Mrs Silvia Colli Lanzi.

1.8.4. External Links

The IFCC has maintained its relations with WHO and transferred its International Medical Laboratory Information System to WHO. In addition, it has expanded its support of regional organisations and regular regional congresses that are held in Europe, in the Arab Region, in the Asian and Pacific Region, in the Latin American Region and in Africa. IFCC has signed Memoranda of Understanding with its Regional Federations.

The IFCC has accepted the ICSU Principles of free circulation of scientists and has assured the attendance of visiting scientist at all meetings. The interests of IFCC continue to expand. It has addressed the policy of patenting key products for analytical methods and continues to work collaboratively with many international organisations to sponsor major educational programmes. The IFCC is also working with a number of other International Organisations such as IRMM, NIST, CLSI and BIPM in developing new standards and in the area of standardisation of methods. The IFCC continues to be very influential in defining and reviewing appropriate terminology in Laboratory Medicine and other fields of chemistry. In addition, the management structure of the Federation has been reorganised continuously to enable it to respond effectively to contemporary issues.

IFCC has signed Memoranda of Understanding agreements with ILAC and WASPaLM to formalise and improve collaboration.

1.8.5. Membership of IFCC Executive Boards

President

EJ. King (UK)	1952 - 1960	G. Siest (FR)	1991 - 1996
ME. Freeman (US)	1960 - 1963	MJ. Mc Queen (CA)	1997 - 1999
JE. Courtois (FR)	1963 - 1967	MM. Müller (AT)	2000 - 2005
M. Rubin (US)	1967 - 1975	JMB. Hicks (US)	2006 - 2008
J. Frei (CH)	1976 - 1978	GH. Beastall (UK)	2009 - 2014
R. Dybkaer (DK)	1979 - 1984	M. Ferrari (IT)	2015 - 2017
DS. Young (US)	1985 - 1990	H. Morris (AU)	2018 - 2020

Vice President

E. Werle (DE)	1966 - 1972	MM. Müller (AT)	1997 - 1999
R. Dybkaer (DK)	1972 - 1978	CA. Burtis (US)	2000 - 2005
RG. Edwards (AU)	1979 - 1981	V. Palicka (CZ)	2006 - 2008
DS. Young (US)	1982 - 1984	CWK. Lam (HK)	2009 - 2011
A. Kallner (SE)	1985 - 1990	H. Morris (AU)	2012 - 2014
MJ. Mc Queen (CA)	1991 - 1996		

President Elect

H. Morris (AU)	2017

Secretary

IDP. Wootton (UK)	1952 - 1958	R. Vihko (FI)	1988 - 1990
ME. Freeman (US)	1959 - 1960	P. Garcia Webb (AU)	1991 - 1993
B. Josephson (SE)	1960 - 1963	O. Zinder (IL)	1993 - 1996
MC. Sanz (CH)	1963 - 1967	J. Whitfield (AU)	1997 - 1999
J. Frei (CH)	1967 - 1975	R. Bais (AU)	2000 - 2005
PMG. Broughton (UK)	1976 - 1978	PH. Laitinen (FI)	2006 - 2011
A. Kallner (SE)	1979 - 1981	S. Bernardini (IT)	2012 - 2017
JG. Hill (CA)	1982 - 1984	DW. Kinniburgh (CA)	2018 - 2020
MM. Müller (AT)	1985 - 1987		

Assistant Secretary

G. Siest (FR)	1972 - 1975	A. Kallner (SE)	1976 - 1978

Treasurer

L. Hartmann (FR)	1966 - 1972	NC. Den Boer (NL)	1991 - 1996
PMG. Broughton (UK)	1972 - 1975	P. Mocarelli (IT)	1997 - 2002
RG. Edwards (AU)	1976 - 1978	JMB. Hicks (US)	2003 - 2005
JG. Hill (CA)	1979 - 1981	G. Shannan (SY)	2006 - 2011
A. Kallner (SE)	1982 - 1984	B. Gouget (FR)	2012 - 2014
ML. Castillo de Sanchez (MX)	1985 - 1987	T. Ozben (TR)	2015 - 2020
MJ. Mc Queen (CA)	1988 - 1990		

Members of Executive Board

A. Sobel (US)	1952 - 1954	N. de Cediel (CO)	1991 - 1993
P. Fleury (FR)	1952 - 1954	O. Zinder (IL)	1991 - 1994
B. Josephson (SE)	1952 - 1960	JB. Whitfield (AU)	1994 - 1999
JCM. Verschure (NL)	1954 - 1959	H. Wetzel (DE)	1994 - 1999
WM. Sperry (US)	1955 - 1960	TD. Geary (AU)	1994 - 1999
K. Hinsberg (DE)	1958 - 1963	P. Mocarelli (IT)	1994 - 1999
JE. Courtois (FR)	1958 - 1963	A. Kallner (SE)	1994 - 1999
MC. Sanz (CH)	1958 - 1963	L. Muszbek (HU)	1997 - 1999
NF. Maclagan (UK)	1960 - 1967	RI. Sierra Amor (MX)	1997 - 2002
VN. Orekhovich (SU)	1960 - 1967	W. Hölzel (DE)	2000 - 2002
SH. Jackson (CA)	1960 - 1967	CWK. Lam (HK)	2000 - 2005
M. Rubin (US)	1963 - 1967	V. Palicka (CZ)	2003 - 2005
R. Ruyseen (BE)	1963 - 1967	H Wetzel (DE)	2003 - 2005
J. de Wael (NL)	1966 - 1967	D. Mazziotta (AR)	2003 - 2008
I. Nagy (HU)	1980 - 1987	N. Madry (DE)	2006 - 2008
N. Montalbetti (IT)	1981 - 1985	M. Thomas (UK)	2006 - 2008
FW. Sunderman Jr (US)	1981 - 1985	JB. Lopez (MY)	2006 - 2011
H. Wishinsky (US)	1985 - 1987	B Gouget (FR)	2009 - 2011
SS. Brown (UK)	1985 - 1990	T. Brinkmann (DE)	2009 - 2014
J. Jaervisalo (FI)	1985 - 1990	U. Tuma (BR)	2009 - 2014
D. Scheuch (DE)	1985 - 1990	L. Kricka (US)	2012 - 2014
I-K. Tan (SG)	1985 - 1990	V. Steenkamp (SA)	2012 - 2017
F. Dati (DE)	1988 - 1993	R. Hinzmann (DE)	2015 - 2017
N. Montalbetti (IT)	1990 - 1992	D. Mazziotta (AR)	2015 - 2017
HP. Lehmann (US)	1990 - 1994	RI. Sierra-Amor (MX)	2015 - 2017

Corporate Representatives

H. Wetzel (DE)	1994 - 1999	N. Madry (DE)	2006 - 2008
W. Hölzel (DE)	2000 - 2002	T. Brinkmann (DE)	2009 - 2014
H. Wetzel (DE)	2003 - 2005	R. Hinzmann (DE)	2015 - 2020

IFCC Regional Federation Representatives at Executive Board 2018-2020

AB Okesina (NG)	African Federation of Clinical Chemistry (AFCC)
A. Hedhili (TU)	Arab Federation of Clinical Biology (AFCB)
S. Sethi (SG)	Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)
S. Sandberg (NW)	European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)
RI Sierra-Amor (MX)	Latin-American Confederation of Clinical Biochemistry (COLABIOCLI)
A. Gronowski (US)	North American Federation of Clinical Chemistry and Laboratory Medicine (NAFCC)

Chapter 2
Full Member Societies

2.1. FULL MEMBERS OF IFCC

Albania (AL)

Albanian Society of Clinical Biochemistry and Laboratory Medicine (ASoLaM)
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Website: www.asolam.org

Algeria (DZ)

Société Algerienne de Biologie Clinique (SABC)
Prof. Imessaoudene Belaid
Laboratoire Central de Biologie
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Alger - Algeria
E-mail: imessaoudene67@gmail.com

Argentina (AR)

Confederación Unificada Bioquímica de la Republica Argentina (CUBRA)
Dr. Alejandra Arias
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Argentina
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Australia and New Zealand (AU/NZ)

Australasian Association of Clinical Biochemists (AACB)
Dr. Peter Ward
President AACB
Managing Scientist, Chemical Pathology
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Royal North Shore Hospital
Pacific Highway, St Leonards
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5/85 Bourke Rd
Alexandria NSW, 2015
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Website: www.aacb.asn.au

Austria (AT)

Austrian Society of Laboratory Medicine and Clinical Chemistry (ÖGLMKC)
Univ. Prof. Dr. Andrea Griesmacher
Head Central Institute of Med. and Chem.
Laboratory Diagnostics
LKH-University Hospital of Innsbruck
Austria
E-mail: office@oeglmkc.at
Website: www.oeglmkc.at

Belarus (BY)

Belarus Society of Clinical Laboratory Diagnosticians (BSCLD)
Dr. Svetlana Bespalova
Chairperson of the Constituent Conference
"Society of Clinical Laboratory Diagnosticians"
220050 Nezavisimosti pr., 10, a/b 12
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E-mail: bsmpss@mail.ru

Belgium (BE)

Royal Belgian Society of Laboratory Medicine (RBSLM)
Prof. Jean-Paul Chapelle
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Bolivia (BO)

Sociedad Boliviana de Bioquímica Clínica
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Bosnia Herzegovina (BA)

Association of Medical Biochemists in Bosnia-Herzegovina
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Brazil (BR)

Sociedade Brasileira de Analíses Clínicas (SBAC)

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Bulgaria (BG)

Bulgarian Society of Clinical Laboratory

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Canada (CA)

Canadian Society of Clinical Chemists (CSCC)
Societé Canadienne de Clinico-Chimistes

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Chile (CL)

Sociedad Chilena de Química Clínica (SCHQC)

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China (CN) - People's Republic of China (PRC) - Beijing

Chinese Society of Laboratory Medicine (CSLM)

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Department of Laboratory Medicine
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China (TW) - Republic of China (ROC) Taiwan

Chinese Association for Clinical Biochemistry

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Colombia (CO)

Colegio Nacional de Bacteriología CNB - Colombia

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Bogota D.C. – Colombia
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Website: www.cnbcolombia.org

Croatia (HR)

Croatian Society of Medical Biochemistry and Laboratory Medicine

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Cuba (CU)

Cuban Society of Clinical Pathologists

Dr. Manuel Morejón Campa
Ministerio de Salud Publica
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Cyprus (CY)

Association of Clinical Laboratory Directors, Biomedical and Clinical Laboratory Scientists

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Website: www.aclcyprus.org

Czech Republic (CZ)

Czech Society of Clinical Biochemistry (CSKB)

Dr. Richard Pikner
Head Dept. of Clinical Laboratories and Bone Metabolism
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Plzenska 929
339 01 Klatovy
Czech Republic
Website: www.cskb.cz

Denmark (DK)

Danish Society of Clinical Biochemistry (DSKB)

Dr. Lars Melholt Rasmussen
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Dominican Republic (DO)

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Ecuador (EC)

Sociedad Ecuatoriana de Bioquímica Clínica (SEBIOCLI)

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President
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Egypt (EG)

The Egyptian Society of Clinical Chemistry and Clinical Laboratory Sciences (ESCC)

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Website: www.escc-eg.org

Estonia (EE)

Estonian Society for Laboratory Medicine

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Laboratory, North Estonia Medical Centre
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Ethiopia (ET)

Ethiopian Medical Laboratory Association (EMLA)

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Website: www.emlaeth.org

Finland (FI)

Finnish Society of Clinical Chemistry (SKKY)

Prof. Päivi Laitinen
Chief Chemist, Adjunct Professor
Clinical chemistry and phlebotomy services
HUSLAB-talo
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FI-00029 HUS - Finland
E-mail: paivi.h.laitinen@hus.fi
Website: www.skky.fi

France (FR)

Société Française de Biologie Clinique (SFBC)

Prof. Philippe Gillery
Service de Biochimie - Pharmacologie - Toxicologie
Pôle de Biologie Médicale et Pathologie
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45 Rue Cognacq Jay
51092 Reims Cedex – France
E-mail: pgillery@chu-reims.fr
Website: www.sfbc-asso.fr

Germany (DE)

Deutsche Gesellschaft für Klinische Chemie und Laboratoriumsmedizin e.V. (DGKL)

Prof. Dr. med. Michael Vogeser
University Hospital, LMU Munich
Institute of Laboratory Medicine
Marchionini str. 15
81377 München
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E-mail: national_representative@dgkl.de
Website: www.dgkl.de

Greece (GR)

Greek Society of Clinical Chemistry - Clinical Biochemistry (GSCC-CB)

Dr. Alexander Haliassos
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166 71 Vouliagmeni Attica – Greece
E-mail: info@eekx-kb.gr
Website: www.eekx-kb.gr

Guatemala (GT)

Asociación de Químicos Biólogos de Guatemala

Dr. Ana Leticia Maselli
6a. Ave. 8-92 zona 9
Guatemala City – Guatemala
E-mail: analeticiamaselli@yahoo.com
Website: www.aqbg.org

Honduras (HN)

Colegio de Microbiólogos y Químicos Clínicos de Honduras

Dra. Mitzi Castro
Col. Selecta/Iglesia Guadalupe
Casa # 144 – Boulevard Morazan
Tegucigalpa – Honduras
E-mail: cmqch@yahoo.com
Website: www.colegiomicrobiologoshn.com

Hong Kong (HK)

Hong Kong Society of Clinical Chemistry (HKSCC)

Prof. Allen CK Chan
Department of Chemical Pathology, CUHK
Prince of Wales Hospital – Hong Kong
E-mail: allen@cuhk.edu.hk
Website: www.medicine.org.hk/hkscc

Hungary (HU)

Hungarian Society of Laboratory Medicine (MLDT)

Dr. Zsuzsa Bagoly
University of Debrecen, Faculty of Medicine
Department of Laboratory Medicine Division of Clinical Laboratory Sciences
98 Nagyerdei krt.
Debrecen 4032 – Hungary
E-mail: bagoly@med.unideb.hu
Website: www.mldt.hu

Iceland (IS)

The Icelandic Society for Laboratory Medicine

Prof. Jon J. Jonsson
Director Dept. of Genetics and Molecular Medicine Landspitali National University Hospital of Iceland
Professor and Chair Dept. of Biochemistry and Molecular Biology Faculty of Medicine
IS-I01 Reykjavik – Iceland
E-mail: jonjj@hi.is

India (IN)

Association of Clinical Biochemists of India (ACBI)

Dr. Rajiv R Sinha
General Secretary
India
E-mail: kpsacbi@yahoo.co.in
Website: www.acbindia.org

Indonesia (ID)

Indonesian Association for Clinical Chemistry (HKKI)

Dr. Sri Paulani
PRODIA Tower-floor 6
Jl. Kramat Raya no 150
Jakarta Pusat 10430
Indonesia
E-mail: hkki.secretariat@gmail.com
Website: www.hkki.org

Iran (IR)

Biochemical Society of Islamic Republic of Iran

Prof. Khosro Khajeh
Department of Biochemistry
Faculty of Biological Sciences
Tarbiat Modares University
Jalal-Al-Ahmad Highway
P.O. Box14115-154
Tehran - Iran
E-mail: khajeh_k@yahoo.com
Website: www.biochemiran.com

Ireland (IE)

Association of Clinical Biochemists in Ireland (ACBI)

Ms. Caroline Joyce MSc DipRCPath
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Cork University Hospital
Cork T12 DC4A
Ireland
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Israel (IL)

Israel Society for Clinical Laboratory Science

Dr. Marielle Kaplan
Director, Clinical Laboratories Division
Director, Clinical Biochemistry Laboratory
Rambam Health Care Campus
P.O.B. 9602
Haifa – 3109601 – Israel
E-mail: m_kaplan@rambam.health.gov.il
Website: www.ilmar.org.il

Italy (IT)

Italian Society of Clinical Chemistry and Clinical Molecular Biology (SIBioC)

Prof. Giuseppe Lippi
Full Professor of Clinical Biochemistry,
University of Verona
Director, Laboratory of Clinical Chemistry and Hematology
Section of Clinical Biochemistry
University Hospital of Verona
37100 Verona – Italy
E-mail: segreteria@sibioc.it
Website: www.sibioc.it

Japan (JP)

Japan Society of Clinical Chemistry (JSCC)

Prof. Masato Maekawa
Professor of Laboratory Medicine
Hamamatsu University School of Medicine
1-20-1 Handayama, Higashi-ku
Hamamatsu city, Shizuoka 431-3192
Japan
E-mail: jscc@mc-i.co.jp
Website: www.jscc-jp.gr.jp

Jordan (JO)

Jordan Society for Medical Laboratory Sciences

Prof. Dr. Yousif Y. Bilto
Department of Biological Sciences
University of Jordan
Amman 11942 - Jordan
E-mail: bilto@ju.edu.jo

Kazakhstan (KZ)

Kazakhstan Association of Medical Laboratory Diagnostic (KAMLD)

Dr. Aliya Kusherbayeva
120, Aiteke bi Street, Laboratory Dpt,
Kazakhstan Research Center for Cardiology and Internal Diseases
Almaty 050091 – Republic of Kazakhstan
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Website: www.kamld.kz

Kenya (KE)

Clinical Chemists Association of Kenya

Dr. Angela Amayo
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P.O. Box 19434 00202
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Korea (KR)

Korean Society of Clinical Chemistry (KSCC)

Dr. Jeong-Ho Kim
President, Korean Society of Clinical Chemistry (KSCC)
Professor, Department of Laboratory Medicine
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Kosovo (XK)

Kosova Association of Clinical Chemistry (KACC)

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Latvia (LV)

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Lebanon (LB)

Lebanese Society of Clinical Biology Syndicat des Biologistes du Liban

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Nederlandse Vereniging voor Klinische Chemie en Laboratoriumgeneeskunde (NVKC)

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Chapter 3
Corporate Members

3.1. LIST OF ADDRESSES

The named Corporate Member representatives have been appointed to facilitate liaison with IFCC. For general inquiries to a listed Corporate Member it is recommended to use the listed website as the first point of contact.

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3.2 PROFILES OF IFCC CORPORATE MEMBERS

Abbott

Abbott is a global, broad-based health care company devoted to the discovery, development, manufacturing and marketing of pharmaceuticals and medical products, including nutritionals, devices and diagnostics. The company employs nearly 99,000 people and markets its products in more than 150 countries. Abbott Diagnostics is a global leader in in vitro diagnostics and offers a broad range of innovative instrument systems and tests for hospitals, reference labs, molecular labs, blood banks, physician offices and clinics. Abbott's diagnostic solutions offer customers automation, convenience, bedside testing, cost effectiveness and flexibility.
Website: www.abbott.com

ADx NeuroSciences

ADx NeuroSciences is a R&D company committed to improving the diagnosis of Alzheimer's disease & dementia. The company identifies and develops novel biomarkers for accurate diagnosis and the effective treatment and follow-up of patients suffering from Alzheimer's, Parkinson's and other neurodegenerative diseases.
Website: www.adxneurosciences.com

Agappe Diagnostics Ltd.

Manufacturers of complete range Diagnostic Reagents like Biochemistry kits, Serology, Immuno Turbidometry, Coagulation, Hematology Reagents and system packs for Biolis series. Products carry CE Marking. ISO 9001-2008 and 13485 - 2003 certified company. Also deals in a range of Fully Auto and Semi Auto Analyzers for various applications. We are exclusive distributors for world famous brands Like Tokyo Boeki Biolis Series and Mindray.
Web site: www.agappe.com

Analis R&D Diag

For more than 25 years, the "ANALIS R&D Diag", group specialized in electrophoresis, has developed kits for in vitro diagnostic, which have been distributed throughout the world. As a result of our long experience in designing kits for electrophoresis using

agarose gels, Analis has developed kits for Capillary Electrophoresis. CEofix™ kits for Capillary Electrophoresis presented here are for Clinical Routine as well as Clinical Research:

- Carbohydrate Deficient Transferrin kit is used to detect AUD (alcohol use disorder). The same kit has been used for Congenital Disorder of Glycosylation (CDG) and for transferrin in Cerebrospinal Fluid (CSF). This kit is FDA device listed and has CE-IVD label for Europe.
- Hemoglobin analysis including variant analysis is possible using two buffer systems (alkaline and basic). The hemoglobin kits are CE-IVD labeled for Europe.
- More generic buffers are also available which allow analysis of proteins for example in CSF or for peptides such as glutathione (GSH-GSSG) in blood.
- Anions, organic acids or cations may also be analyzed using specific applications.
- And a special dynamic coating may be used to facilitate CE-MS applications for proteome biomarker.

"R&D Diag" is composed of highly trained people, who offer assistance including running customer samples. We welcome ideas and projects in developing new applications using the high-resolution power of Capillary Electrophoresis.
Website: www.analis.com

Asahi Kasei Pharma Corporation

We are growing as a specialty pharmaceutical firm with a global presence by focusing on the development of new world-class drugs in selected therapeutic fields. In diagnostics, management resources are concentrated on products with strong growth prospects. The Diagnostics Department develops and manufactures enzymes for clinical chemistry use, reagents, diagnostic kits, and human enzyme calibrator for standardization, employing state-of-the-art biotechnology, for marketing to reagent manufacturers, OEM reagent manufacturers, and hospital and commercial laboratories. Our focus is on value-added, continuous innovation and quality improvement of enzymes and enzyme-related products to meet the increasing demands for greater measurement accuracy and product-handling flexibility in the clinical chemistry marketplace.
Website: www.asahi-kasei.co.jp/asahi/en/index.html

BD Life Sciences – Preanalytical Systems

BD is a global medical technology company that is advancing the world of health by improving medical discovery, diagnostics and the delivery of care. BD leads in patient and health care worker safety and the technologies that enable medical research and clinical laboratories. The company provides innovative solutions that help advance medical research and genomics, enhance the diagnosis of infectious disease and cancer, improve medication management, promote infection prevention, equip surgical and interventional procedures, and support the management of diabetes. The company partners with organizations around the world to address some of the most challenging global health issues. BD has nearly 50,000 associates across 50 countries who work in close collaboration with customers and partners to help enhance outcomes, lower health care delivery costs, increase efficiencies, improve health care safety and expand access to health. For more information please visit: www.bd.com

Beckman Coulter, Inc.

Improving Patient Health and Reducing the Cost of Care
Beckman Coulter is an organization with one of the most comprehensive product portfolios in both life sciences and clinical diagnostics. When laboratories choose Beckman Coulter as their partner, they receive distinct advantages: a legacy of quality, superior brand equity, and a highly capable team of professionals with a single focus

- making laboratories more efficient and productive. We are able to design, develop, manufacture, sell and support testing systems that simplify and automate complex biomedical testing.
Our customers include hospitals, physicians' offices, diagnostic reference laboratories, pharmaceutical and biotechnology companies, universities, medical schools and research institutions. In fact, Beckman Coulter has placed more than 200,000 clinical and research instrument systems in laboratories around the world. Our diagnostic systems are found in hospitals and other critical care settings around the world and produce information used by physicians to diagnose disease, make treatment decisions and monitor patients.
- Instruments for life science research are used by scientists as they study the causes of disease, identify new therapies, and test new drugs.

Headquartered in Orange County, California, Beckman Coulter employs about 12,000 people worldwide, operating in more than 50 sites on six continents.
By offering laboratories the tools that increase the accuracy of test results and velocity of decision-making, Beckman Coulter is dedicated to improving patient health and reducing the cost of care.
Website: www.beckmancoulter.com

Beijing Dream Diagnostics Medicine (DDM) Technology Co. Ltd.

Beijing Dream Diagnostics Medicine (DDM) Technology Co., Ltd. is one of the mainstream IVD consultation groups in China providing services for the whole industry chain of IVD and focusing on laboratory medicine, consisting of incubator department, media department, CRO department and exhibition department, committed to the domestic and foreign IVD companies to provide the whole industry chain services.
Website: www.ivdchina.com

The Binding Site Group Ltd.

Binding Site is a British-based company specialising in the research, development and production of immunodiagnostic kits and reagents. Binding Site manufactures a wide range of high quality and innovative products used in clinical laboratories world-wide. International support is provided in the UK, USA, Canada, Germany, Austria, France and Spain from Binding Site offices and a network of distributors in over 60 other countries.
The origins of the company go back to the early 1960's when antisera were produced to meet the needs of the Immunology department within the University of Birmingham Medical School. The range of antisera produced was small but novel and of a very high quality, leading to numerous requests for material from Immunology groups around the world. During the ensuing years the range of antibodies grew rapidly and in the early 1980's a commercial immunodiagnostic company, Binding Site, was founded.
Expertise in immunisation and processing techniques has enabled us to build a range of immunodiagnostic products aimed at fulfilling the needs of commercial and government funded laboratories in a range of markets - Hospitals, Reference Centres, Universities, Pharmaceuticals, Therapeutics - whatever their size or complexity.
Innovative new products and improved product performance are the benefits of our collaborations with numerous centres of excellence, coupled with a highly professional scientific and technical manufacturing staff.
Our product portfolio has grown to include the most comprehensive range of assays for Primary Immunodeficiency in the world. We have also been able to develop the Freelite assays, the first nephelometric tests for measuring free immunoglobulin kappa and lambda light chains in serum. These assays give a sensitivity, accessibility and consistency never before achievable, allowing significant improvements in laboratory

and clinical practice for the detection and monitoring of B cell malignancies. Rigorous quality assurance procedures help ensure that we provide only products of the very highest standard and with technical support and educational programmes offered world-wide we are able to offer all of our customers the benefits of our technical expertise and knowledge. Website: www.bindingsite.com

Bio-Rad Laboratories

Founded in 1952, Bio-Rad has its headquarter based in Hercules, California. It has remained at the centre of scientific discovery for more than 50 years by providing a broad range of innovative tools and services.
Bio-Rad employs more than 6,800 professionals worldwide within a network of more than 30 wholly owned subsidiaries serving more than 150 countries. Its two primary businesses include Clinical Diagnostics and Life Science research.
Bio-Rad serves more than 100,000 research, industry and clinical laboratories around the globe. It is world renowned within its core industry segments with customers in hospitals, universities, research institutions, microbiological and environmental inspection agencies, pharmacological and biological research and private industry laboratory.
Bio-Rad is the number one specialty diagnostics company. It holds leadership positions in quality control management, diabetes monitoring, blood virus testing and detection, blood typing and autoimmune disorders testing
Website: www.bio-rad.com

C.P.M. Diagnostic Research SAS

Since 1986 we have been involved in hospital sanitation projects both in Italy and abroad promoted by the Cooperazione Italiana, the European Union and the Vatican Foreign Mission. Our teamwork attitude has gained us loyal customers in the construction industry, oil industry (Agip Recherches) and ONG, the Italian Red Cross, in the construction of hospital and medical centers, like the hospital in Quelimane in Mozambique, the hospital in Sidone Lebanon, the hospital in Thaoua and Zinder in Niger, the San Juan de Dios hospital in Colombia and pharmaceutical products, diagnostic material, medical supplies and hospital facilities to Bosnia, Sierra Leone, New Guinea, Haiti, the Ukraine, Angola, Guatemala, Tanzania and other countries as part of programs operated by the E.C.H.O and EU program.
On behalf of the United Nations and in collaboration with LIFE Rome, we built a totally solar powered mobile health-care unit which was been to Salvador.
To K.P.O - Karachaganak Petroleum Operating - B.V. have been supplied emergency and intensive care ambulances where these vehicles were able to offer their service above where the climatic conditions and temperature are exasperated (+50°C / -38°C).
Moreover, since 15 years, C.P.M. SAS have a branch office in the Republic of Cuba recognized by the local government and where we are one of the most important distributor in Chemical Chemistry and Microbiology sector with a wide range of products registered near the local Health Authority.
C.P.M. SAS thanks to its efficiency in quality and manufacturing process have obtained the ISO 9001:2008 and ISO 13485:2004 certifications.
Website: www.cpmsas.it

DiaSys Diagnostic Systems GmbH

DiaSys Diagnostic Systems is a leading specialist in development and manufacturing of diagnostic system solutions of high quality combined with ease of use and reduced environmental burden. Focusing on clinical chemistry and immunoturbidimetric tests, DiaSys has introduced more than 90 optimized reagents in user-friendly kits for

manual or automated use. The products give reliable results in routine and special diagnostics as e.g. in diabetes, metabolic syndrome, lipid disorders, iron metabolism, pancreatic, kidney or liver diseases. The analytical instrumentation portfolio comprises automated clinical chemistry system analyzers for small to mid-size labs (respons®, BioMajesty®JCA-BM 6010/C), semi-automated analyzers, POCT instruments (InnovaStar®) as well as glucose/lactate analyzers (SensoStar®). Additionally, DiaSys offers a broad range of quality control material (TruLab®). DiaSys is an ISO certified company since 1996 (ISO 13485:2003, ISO 9001:2000). To date, customers and partners in more than 100 countries around the world rely on DiaSys quality.
Website: www.diasys-diagnostics.com

Diatron

Diatron specializes in the development, manufacturing and marketing of hematology analyzers, reagents (both for our own and other manufacturers' analyzers) and hematology control material as well as clinical chemistry analyzers, clinical chemistry reagents and controls for human medical and veterinary use. The brand name of Diatron has been established throughout the world as a result of our capability for manufacturing high quality and extremely reliable instruments, which has resulted in our products being sold and marketed in more than 100 countries. Today, there are more than 30,000 Diatron clinical chemistry and hematology analyzers in laboratory use, and our customer base continues to grow strongly year after year. All of our products have CE marking with some having FDA clearance, thus allowing sale to the USA market.
Website: www.diatron.com

FUJIFILM Wako Pure Chemical Corporation

Wako Pure Chemical Industries, Ltd. was established in 1922 as a predecessor of Takeda Chobei Shoten (currently, Takeda Pharmaceutical Company Limited) pharmaceutical department.
Interest in healthcare continues to grow. High hopes are now pinned on the diagnostic tests to enable prevention of diseases, as well as their early detection and treatment.
Wako Pure Chemical Industries, Ltd. is engaged in the research, development, and manufacturing of a diverse range of products, such as assay kits for the diagnosis of cancer and life-style related diseases, and infectious disease assays.
We are also steadfastly fulfilling our mission as a comprehensive diagnostic reagent manufacturer by developing assays that integrate reagents and instruments, and by promoting comprehensive total solutions for medical management and operations.
We will contribute to the advancement of the quality of medicine by continuing to develop valuable assays in cutting-edge areas, supporting future medicine such as disease prognosis and diagnosis, and predisposition detection.
Website: www.wako-chem.co.jp

Fujirebio Europe

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

Gentian AS

Gentian develop, manufacture and market IVD products based on proprietary technology for flexible, high speed, high sensitivity testing.
The Gentian Cystatin C Immunoassay provides standardised and precise measurement of kidney function, which has allowed Gentian to become a leading force in introducing this novel renal marker in routine diagnostics in clinical laboratories worldwide.
Gentian's product development focuses on enhancing the assay signal strength of current particle enhanced turbidimetric and nephelometric methods for more sensitive, precise results. Following the success of this technology in the Cystatin C Immunoassay, it is now being utilized in the areas of cardiovascular, cancer, inflammation and veterinary diagnostics. Gentian is located in Oslo, Norway and Beijing, China. Valid certificates include ISO 13485:2012 and ISO 9001:2008.
Website: www.gentian.no

Guangzhou Wondfo Biotech Co. Ltd.

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

Helena Biosciences Europe

Helena Biosciences is a leading medical diagnostic company with an international reputation comprising two flagship business divisions that specialise in the design, manufacture and support of Clinical Electrophoresis and Haemostasis systems and tests. For over three decades, the company has been a market leader in clinical electrophoresis technology, pioneering advances in the design of instrumentation, applications and software for acetate, agarose and since 2009, fully automated Clinical Capillary Electrophoresis.
Website: www.helena-biosciences.com

Hemas Hospitals (PVT) Ltd.

Hemas Hospital (Pvt) Ltd., Wattala is one of the largest private Hospitals in Sri Lanka with 135 beds, catering for over 15,000 admissions and 250,000 outpatient attendances each year.
Hemas Hospital Laboratory Services – Wattala, being a part of the Hemas Hospital, Wattala recognizes its responsibility as a provider of quality services and has developed and documented a quality management system to better satisfy the needs of its customers and to improve management of the organization. The quality system complies with the international standards ISO 15189:2012.
Laboratory Diagnosis is divided into following disciplines, Hematology, Clinical Biochemistry, Chemical Pathology, Clinical Pathology, Microbiology, Serology, Histology and Phlebotomy services.
Website: www.hemashospitals.com

HyTest Ltd.

HyTest Ltd., founded in 1994, offers innovative solutions for assay development and research applications by providing high-quality immunological reagents in such areas as cardiac markers, infectious, neuroscience, biological warfare agents and autoimmune

disease reagents. HyTest is a leading provider of several reagents such as antibodies and antigens of the troponin I, troponin complex and Influenza A and B. HyTest offers also extensive customer services and has a certified ISO 9001:2000 quality system.
Website: www.hytest.fi

MedicalSystem Biotechnology Co., Ltd.

Ningbo MedicalSystem Biotechnology Co., Ltd., as a leading company in the field of clinical chemistry in China, specializes in the development, manufacturing and marketing of diagnostic system solutions. MedicalSystem is certified by Quality Management System ISO 9001: 2008 and ISO 13485: 2012.
MedicalSystem focus on providing IVD products and the third party clinical diagnosis services to hospitals and other medical institutions.
MedicalSystem is committed to build the business model of "taking the diagnostic products as the core, integrating diagnostic product and service" to fulfill the needs of customers. MedicalSystem has a first-grade R&D team and obtained more than 128 in-vitro diagnostic reagents registration certificates licensed by CFDA covering most of the clinical chemistry test and becomes one of the manufacturers which offer the largest range of chemistries in China. Additionally, MedicalSystem has 4 automatic biochemistry analyzers registration certificates. The analyzers could meet customers' requirements completely. MedicalSystem is one of the largest manufacturers in Chinese IVD industry who could provide diagnostic reagents and instruments together.
MedicalSystem has established a high-level reference laboratory for standardization of their IVD products since 2009, the quality of measurement services was assured through compliance with ISO 15195: 2003 and ISO 17025: 2005 and through regular participation in appropriate EQAS. In RELA 2014, the reference laboratory (Labcode 087) has participated 19 measurands (including Enzymes, Proteins, Electrolytes, etc.) with satisfactory results. In order to improve the accuracy of patient results in clinical laboratories, MedicalSystem has developed the first EQA scheme (MSEQA) launched by Chinese IVD manufacturer which provides a means of assessing the analytical performance of a laboratory compared to others.
Website: www.nb-medicalsystem.com

A. Menarini Diagnostics

Born as a division of pharmaceutical A. Menarini Industrie Farmaceutiche Riunite, headquartered in Florence and with over 17.000 employees in 70 countries, A. Menarini Diagnostics is a healthcare company with more than 30 years of experience in developing and leading the European market of prevention and diagnostics.
For the European healthcare community we are a dynamic and reliable partner providing innovative diagnostic solutions thanks to our deep relation with the market, and therefore, knowledge of its needs. All therapy decisions are based on reliable informed diagnosis as well as quality of life is related to prevention. These are the main reasons for our daily committed work. By focusing on well-defined and selected diagnostic areas, we create value for the society as a whole. Extensive investments in research, strategic alliances, and a constant, close, and intelligent presence into the healthcare community, allow us to be a leading European company and a trustful partner for both patients and professionals. Our aim is to make diagnostics management easier, more effective and result cost efficient.
All over Europe each client can be supported by one of our more than 700 skilled scientific consultants. In fact, we are one of the diagnostics company with the most capillary presence in Europe, with our 14 fully owned subsidiaries, covering with our own network 90.3% of the population and serving a market of 300 million people. We have a leading position in the Diabetes monitoring and our activities also cover

Urinalysis, Autoimmune diseases, Hematology, Immunology, Immunohistochemistry, Wet and Dry Chemistry systems.
Website: www.menarinidiagnostics.com

Mindray

Mindray was founded in 1991 with the goal of delivering high-quality, competitively priced medical devices to make healthcare more accessible and affordable around the world. In 2006, Mindray listed on the New York Stock Exchange.
The company has three well-established business segments: Patient Monitoring and Life Support Products, In-Vitro Diagnostic Products and Medical Imaging Systems. Health care facilities equipped with Mindray's products can be found in over 190 countries and regions. The IVD Mindray has a global R&D network with research centers in Shenzhen, Beijing, Nanjing, Seattle, New Jersey and Stockholm. Approximately 10% of total revenue has been consistently re-invested into R&D each year. An average of eight new products has annually been introduced to the market over the past seven years. The detail information please visit:
Website: www.mindray.com

Mitsubishi Chemical Europe GmbH

Mitsubishi Chemical Medience is a subsidiary of Mitsubishi Chemical Corporation. For more than 40 years now, it provides biological and medical/clinical labs with fast and highly precise analysis methods from its extensive and continuously expanded test portfolio. The outstanding quality of its appliances, reagents and service are the basis and the future perspective of the Japanese cooperation with its decades-long success story. Already back in 1982, Mitsubishi Chemical Corporation was the first company worldwide to develop the LPIA (latex photometric immunoassay) method to market maturity. Latest innovative product is PATHFAST® a fully automated chemiluminescence immuno analyser platform for the determination of biomarkers for fast differential diagnosis in central labs and at the point of care. The Mitsubishi Chemical Medience Group is aiming for further development under the management vision of "Good Health Creator, MEDIcal+sciENCE: Creating a Healthy and Safe Society through Medical Science." Its core business today comprises the development, production and distribution of analysis devices and reagents sets based on the patented LPIA technology on the one hand, and a significant engagement in the "theranostics" sector on the other. In this sector, the company maintains global connections and cooperation's with research companies and internationally operating university factories and labs today. Its major focus on research will also guarantee products with the highest possible state of development in the future. Mitsubishi Chemical Europe GmbH is the representative of diagnostic business in EMEA.
Website: www.mitsubishichemical.com

Nova Biomedical Corporation

Nova Biomedical is a world leader in point of care and critical care whole blood diagnostic testing. The company's products are marketed in six worldwide market areas—Hospital, Clinic/Physician Office, Ambulance and Emergency, Veterinary, Blood Bank, and Self-test. Hospital and veterinary products include StatStrip® point-of-care meters for glucose, ketone, creatinine and lactate testing as well as Stat Profile critical care blood gas analyzers with no-maintenance cartridges and MicroSensor technology. Nova's Allegro™ analyzer for primary care settings is a fast, simple, capillary whole blood analyzer providing HbA1c, lipids, urine albumin/creatinine, blood creatinine, hemoglobin and hematocrit in 5 minutes. StatStrip EM™ is a portable, system for ambulance use that provides rapid glucose, ketone, lactate, hemoglobin,

and hematocrit testing using tiny capillary blood samples. Nova also markets the Nova Max Plus self-test meter for glucose and ketone testing.
Website: www.novabiomedical.com

Oneworld Accuracy Collaboration

We invite leading clinical and research groups around the world to become Science Architects in the Oneworld Accuracy Collaboration. We embed their science in programs that assess, improve and standardize test results. We add those programs to OASYS - Oneworld Accuracy System. OASYS is an online system that can connect anyone in the world that has Internet access. We invite national groups to own the challenge of achieving testing accuracy in their countries. We empower them as Collaboration Members. We give them the tools they need: programs, online system, training and the collective experience of their Collaboration peers. We invite laboratories, doctors, clinics and pharmacies to participate in our EQA and Standardization programs. Oneworld Accuracy currently has 30 Collaboration Members who provide 25,000 program subscriptions every year to 5,000 participants in 55 countries.
Website: www.oneworldaccuracy.com

Ortho-Clinical Diagnostics, Inc.

Ortho-Clinical Diagnostics For nearly 70 years, Ortho Clinical Diagnostics has provided the global healthcare community with the means to make better informed decisions. We've pioneered some of the most important, life-impacting advances in diagnostics - from our earliest work in blood typing to the latest developments in laboratory systems. Today, we serve the clinical laboratory and transfusion medicine communities worldwide. We're a leading provider of laboratory solutions as an aid in the diagnosis and treatment of disease. For more information please visit:
Website: www.orthoclinical.com

PPD Inc.

PPD is a leading global contract research organization providing drug discover, development and lifecycle management services. Our clients and partners include pharmaceutical, biotechnology, medical device, academic and government organizations. PPD laboratories including the Central Clinical Laboratories (US, Belgium, Singapore and China), Bioanalytical laboratories (VA. and WI) and Phase 1 Unit Clinical Laboratory (TX) provide a wide array of clinical laboratory testing services for clinical trial patients and bioanalytical assay development and specimen analysis in support pharmaceutical drug research and development.
Website: www.ppdi.com

Radiometer Medical ApS

Radiometer is a leading provider of technologically advanced acute care solutions that simplify and automate all phases of acute care testing. Radiometer's solutions cover blood sampling, blood gas analysis, transcutaneous monitoring, immunoassay testing and related IT management systems and help healthcare professionals get fast and accurate information on the most critical parameters in acute care testing. At Radiometer, our mission is to help caregivers make diagnostic decisions that save lives. Add to that our vision of improving global healthcare with reliable, fast and easy diagnoses. This is the foundation for making immediate and well-informed decisions on the treatment of critically ill patients in clinical settings such as emergency care, intensive care, anesthesiology, cardiac surgery, neonatal intensive care and wound care.
Founded in 1935 and headquartered in Copenhagen, Denmark, Radiometer was a

pioneer in blood gas testing, introducing the world's first commercially available blood gas analyzer in 1954. Today, Radiometer's products and solutions are used in hospitals, clinics and laboratories in over 130 countries, to provide information on the most critical parameters in acute care testing. In fact, seven samples are performed every second on a Radiometer analyzer somewhere in the world. That's 420 samples a minute, 25, 200 samples an hour, 604, 800 samples a day. That's 220, 752, 000 samples every year performed on a Radiometer analyzer somewhere in the world.
For more information about blood gas analyzers, immunoassay analyzers, transcutaneous monitoring solutions or IT management systems, visit www.radiometer.com . For information about the latest trends in acute care testing, visit www.acutecaretesting.org , Radiometer's knowledge site.

Randox Laboratories Ltd.

Randox Laboratories, a market leader within the in vitro diagnostics industry, has 30 years' experience in developing and manufacturing high quality products for laboratories worldwide. Our extensive product portfolio offers complete solutions within the fields of clinical chemistry, forensic toxicology, veterinary, drug residues, life sciences, oncology, molecular diagnostics and internal and external quality control.
Our innovative approach to diagnostics has enabled the development of a wide range of products including our benchtop clinical chemistry analysers, the RX daytona, RX imola and RX monza. The advanced functionality of each analyser ensures outstanding flexibility, optimum reliability coupled with a comprehensive test panel and cost saving features. The most recent addition to the RX series, the RX suzuka, offers high quality testing for the larger throughput laboratory.
Randox has also developed a full range of immunoassay analyser systems. The Evidence family of analysers include the Evidence, Evidence Investigator, Evidence MultiStat and Evidence Evolution. Each system incorporates revolutionary Biochip Array Technology that allows simultaneous detection of multiple analytes from a single patient sample. Rapid effortless testing, advanced consolidation and high-quality results are a few of the many benefits of the Evidence analysers. The extensive biochip test menu includes both protein and DNA biochips, expanding the range to over 215 different biomarkers.
Our goal is to 'revolutionise healthcare through continuously improving diagnostic solutions'. We continue to achieve this year after year due to our commitment and significant re-investment in Research and Development. Our large support network of staff allows us to develop and perfect revolutionary products, specifically designed to provide more efficient, higher quality and reliable results, ensuring patients receive the right diagnosis at the right time.
Website: www.randox.com

Roche Diagnostics

Headquartered in Basel, Switzerland, Roche is a leader in research-focused healthcare with combined strengths in pharmaceuticals and diagnostics. Roche is the world's largest biotech company, with truly differentiated medicines in oncology, immunology, infectious diseases, ophthalmology and neuroscience. Roche is also the world leader in in vitro diagnostics and tissue-based cancer diagnostics, and a frontrunner in diabetes management. Roche's personalised healthcare strategy aims at providing medicines and diagnostics that enable tangible improvements in the health, quality of life and survival of patients. Founded in 1896, Roche has been making important contributions to global health for more than a century. Twenty-four medicines developed by Roche are included in the World Health Organisation Model Lists of Essential Medicines, among them life-saving antibiotics, antimalarials and chemotherapy.

In 2016 the Roche Group employed over 90,000 people worldwide, invested 9.9 billion Swiss francs in R&D and posted sales of 50.6 billion Swiss francs. Genentech, in the United States, is a wholly owned member of the Roche Group. Roche is the majority shareholder in Chugai Pharmaceutical, Japan. For more information:
Website: www.roche.com .

Sebia S.A.

Sebia a global specialty diagnostic company, develops, manufactures and commercializes IVD tests and analyzers dedicated to the in vitro diagnosis of cancer, inflammatory diseases, diabetes and hemoglobin disorders. Sebia's focus on electrophoresis techniques enables it to maintain a sustained R&D program, providing access to genuine innovations in any lab. Both agarose gel and capillary assays, and their dedicated automation, are designed to be integrated into the same routine workflow; for gel (Assist, Hydrasys 2 Scan) and for capillary electrophoresis (Capillarys 3 TERA, stand alone or in work cell configuration up to three instruments with tube loader, Capillarys 2 Flex Piercing, Minicap Flex Piercing). More recently Sebia completed its Myeloma product line, with two important additions, Hydrashift daratumumab, reagent to be used with the Hydragel IF test to mitigate the DARZALEX(R) interference, and two new generations sFLC assays, Seralite serum and Sebia FLC kappa and lambda kits.
Website: www.sebia.com

Sekisui Diagnostics

Headquartered in Lexington, MA, for over 30 years Sekisui Diagnostics has been committed to helping improve the lives of patients by providing innovative medical diagnostics to physicians and laboratories.
We develop, manufacture, and supply billions of tests each year to the global healthcare market through our commercial networks and partners. Our product lines include:

- Clinical chemistry systems and reagents
- Coagulation systems and reagents
- Rapid tests
- Point of care immunoassay system
- Enzymes and specialty biochemicals

Website: www.sekisuidiagnostics.com

Sentinel CH. SpA

Sentinel CH SpA is an Italian company founded in 1983.
For over twenty years Sentinel has been committed to the development of innovative IVD devices in the bid to make clinical diagnosis ever more reliable.
In 2006 Sentinel moved to new high-tech premises covering a total area of about 10.000m².
The company is ISO 9001:2000, ISO 13485:2003 and ISO 13485:2003 CMDCAS certified. Sentinel is compliant with the European Directives (98/79/CE), 21C CFR 820 "Code of Federal Regulations" FDA (U.A. Food and Drug Administration), SOE-98-282 (Canadian Medical Devices Regulations) as well as with directives of other countries, including Canada (CMDCAS). The facility, equipment and Quality System are regularly audited by Certification Body, Registrar Body and by customers and inspected by the National Competent Authority and FDA.
Sentinel's commitment to comply with IVD regulations has facilitated and supported successful partnerships in the industry as well as the distribution of Sentinel's products in over 70 countries worldwide.
Sentinel has an active presence at the major international congresses, presenting

posters written by its specialised scientists. Sentinel is an active partner of IRMM projects for the release of new References Preparations for proteins.
The Technical and Manufacturing departments count for 70% of the company.
More than 100 different assays, under our own brand and also as customized kits, are manufactured in contamination-free clean rooms (ISO 8 and ISO 7 qualified).
The company's main areas of activity are:

- Clinical Chemistry
- Immunoturbidimetry
- Calibrators, controls
- Fully automated systems for Clinical and Immunochemistry, Fecal Occult Blood (FOB) testing and Coagulation.

The new Molecular Biology department initiated in 2008 has its own Production clean rooms (ISO 7) as well as R&D laboratory.
Sentinel Diagnostics: "Watching over Life"
Website: www.sentineldiagnostics.com

Shanghai Kehua Bio-Engineering Co., Ltd.

Shanghai Kehua Bio-Engineering Co., Ltd. (KHB) was founded in 1981, focusing on the IVD business. In July 2004, KHB listed on the Shen Zhen Stock Exchange and is now one of the largest developers, manufacturers and marketers of in vitro diagnostic products in China, offering products mainly in two primary business segments: Diagnostic Reagents and Diagnostic Laboratory Instruments.
Based on the innovation center and post-doctoral workstation with excellent R&D professionals and talents, we have built a world class R&D platform.
We have successfully broadened our market reach by introducing more advanced products and new product lines that address different end-user segments. To date, KHB was obtained registration certificates (SFDA) for 180-plus products and 67 have been CE-marked.
Website: www.skhb.com

Shanghai Zhicheng Biological Technology Co., Ltd

Shanghai Zhicheng is an innovative Chinese company devoted to manufacturing and marketing in vitro diagnostic (IVD) tests for use in clinical laboratories. We have been focusing on promoting the quality of our products by serious and pragmatic R&D, strict QC according to ISO 13485 and ISO 9001 since the company was founded by Mr. Wanghui in 1995. Now our products were distributed more than 1000 laboratories in China with famous brand of DENUO.
Website: www.shzhicheng.com

Sichuan Maccura Biotechnology Co., Ltd.

Maccura Biotechnology Co., Ltd. was incorporated in 1994. Maccura is a hi-tech enterprise certified by relevant departments. Maccura has past the CMD ISO13485, CQC ISO14001, TUV ISO13485 as well as CE Certification of some products, and obtained the CNAS Medical Reference Laboratory Accreditation. Maccura is an In-Vitro Diagnostic integration company of research & development, production, sales and services. We become the first enterprise member at IFCC. As an IVD company, Maccura is the first batch to build the enzymatic reference laboratory, and traceable results of maccura's diagnostic products have reached the international advanced level. Maccura has been transformed into one of the leading IVD companies in China. Today, Maccura continues to grow with innovation and provide top quality IVD products and services to the world.
Website: www.maccura.com

Siemens Healthcare Diagnostics

Siemens Healthcare Diagnostics provides healthcare professionals in hospital, reference, and physician office laboratories, and point-of-care settings with the vital information required to accurately diagnose, treat, and monitor patients. The company's innovative portfolio of performance-driven solutions and personalized customer care combine to streamline workflow, enhance operational efficiency, and support improved patient outcomes.

The company serves 30,000 customers in more than 120 countries and offers solutions for immunoassay, chemistry, automation, hemostasis, hematology, blood gas, diabetes, urinalysis, microbiology, and molecular testing, and also offers a comprehensive diagnostics IT portfolio. As a global leader in clinical diagnostics, Siemens' forward-thinking products and services are helping clinicians deliver better care so people around the world can lead healthier lives.

To learn more about Siemens Healthcare Diagnostics, please visit our Web site at www.siemens.com/diagnostics

Snibe Co., Ltd.

Snibe is a leading brand of Chemiluminescence immunoassay solution from Shenzhen, China. Also, Snibe is the first company who received FDA cleared on Chemiluminescence immunoassay product in China. With more than 1300 staffs, Snibe is focusing on Chemiluminescence immunoassay solution for 23 years. At present, Snibe products widely exported to more than 130 countries with 8000 installations globally. Best Quality, Best Service is our target. Snibe would like to be the pioneer in global diagnosis field.

Find out more at: www.snibe.com

Sysmex Europe GmbH

SYSMEX EUROPE GMBH, Germany-based daughter company of SYSMEX CORPORATION, Kobe, Japan, is responsible for customer and sales support for Sysmex's in vitro diagnostic systems and reagents as well as manufacture and sales of reagents for Sysmex's in vitro diagnostic systems in the European, African and Middle East markets.

Sysmex, a manufacturer of comprehensive clinical testing, is engaged in clinical laboratory testing of blood, urine and other specimens, covering the areas of haematology, haemostasis, immunochemistry, biochemistry, urinalysis and faecal occult blood testing.

In the field of haematology, Sysmex holds the global market leader position. In addition to providing instruments and reagents for clinical laboratory testing, Sysmex is also developing a broad range of laboratory information systems and application software, thus offering information technology as part of its comprehensive service and support system. Integration of those various technologies is the driving force behind Sysmex's business activities.

Sysmex is also developing these technologies and expertise to expand its areas of business. For example, it is expanding into such fields as point of care (POC) testing - clinical laboratory tests conducted on the spot, such as in the hospital operating room, intensive care unit, or at the clinic - to enable faster diagnoses, centralized test data management for improved testing efficiency, and the establishment of local healthcare networks to link hospitals and clinics.

At the same time, Sysmex is also creating new core technologies to address the challenges of disease prevention and early cancer detection.

By expanding its business into these healthcare testing fields, Sysmex intends to

contribute to the creation of a vibrant and healthy society. In addition, Sysmex is applying the technologies that it has devised in the field of clinical laboratory testing to industry, sports, and other new business fields.
At Sysmex, we have adopted two commitments to the future: to continually develop advanced technologies and create value with the aim of serving our customers and society at large; and to play a key role in contributing to the health and vitality of people the world over. It begins with close attention to the voices of our customers.
Website: www.sysmex-europe.com

Thermo Fisher Scientific

Thermo Fisher Scientific is the world leader in serving science. Thermo Fisher Scientific is a driving force in the research, healthcare, industrial and applied markets, generating more than USD 20 billion in annual revenue. No other company can match our range of customer touch points – technologically, geographically or commercially. We help our customers in finding cures for cancer, protecting the environment, making sure our food is safe and moving forward with thousands of important projects that improve millions of lives. At Thermo Fisher Scientific, each one of our 65,000 extraordinary minds has a unique story to tell. Our four premier brands - Life Technologies, Thermo Scientific, Fisher Scientific and Unity Lab Services - offer an unmatched combination of innovative technologies, purchasing convenience and comprehensive support. Our mission is enabling our customers to make the world healthier, cleaner and safer. For more information, please visit: www.thermofisher.com

Timedico A/S

Leading global developer of safe and reliable transportation systems for small clinical samples. Timedico is committed to the development, manufacturing and marketing of the patented invention TEMPUS600® - the internal transportation system designed for transferring small clinical samples in hospitals and related businesses. The system is fast, safe and dedicated – and by enabling one-touch handling and point-to-point delivery the TEMPUS600 provides a crucial reduction of the total turn-around time.
Website: www.tempus600.com

Labor Dr. Wisplinghoff

Wisplinghoff diagnostic services are backed by a strong team of 29 medical doctors and scientists in Cologne.
contribute to the overall progress of healthcare by leading collaborations with industry and academic institutions in order to develop new techniques, carry out research and promote synergies between our scientists, academics and colleagues in the industry.
Website: www.wisplinghoff.de/en

Chapter 4
Affiliate Member Societies

4.1. AFFILIATE MEMBERS OF IFCC

Brazil (BR)
Sociedade Brasileira de Patologia Clínica / Medicina Laboratorial (SBPC/ML)

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President
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Rio de Janeiro RJ
Brazil
E-mail: presidente@sbpc.org.br
Website: www.sbpc.org.br

China (CN)
China-Beijing: Lab Medicine Committee, China Association of Medical Equipment

Mr. Limin Zhang
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Beijing, 100050
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Egypt (EG)
Egyptian association of healthcare quality and patient safety

Dr. Rania Mohamed ElSharkawy
Assistant professor of Chemical Pathology
Quality Director of Medical Research Institute Laboratories
MRI-Alexandria University
El- Hadra, Alexandria
Egypt
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India (IN)
Association of Medical Biochemists of India (AMBI)

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c/o Dr. V. Govindaraju
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Iran (IR)
Iranian Association of Clinical Laboratory Doctors

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Iranian Reseach Organization for Science &Technology (IROST)
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Jordan (JO)
Society for Medical Technology & Laboratories

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President
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Mexico (MX)
Federación Nacional de Químicos Clínicos (CONAQUIC A.C.)

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San Pedro Cholula
Puebla 72706 - Mexico
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Website: www.conaquic.com

Nepal (NP)
Nepalese Association for Clinical Chemistry

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General Secretary
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Website: www.nacc.org.np

Philippines (PH)
Philippine Council for Quality Assurance in Clinical Laboratories (PCQACL)

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Immediate Past President
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Regional Association for Clinical Laboratory Diagnosis, St. Petersburg

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Spain (ES)
Asociación Española del Laboratorio Clínico (AEFA)

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Spain
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Website: www.aefa.es

Turkey (TR)
Society of Clinical Biochemistry Specialists (KBUD)

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Maslak Mah. AOS 55
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Blok D: 231
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Website: www.kbud.org.tr

Ukraine (UA)
Association for Quality Assurance of Laboratory Medicine (AQALM)

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Chapter 5
Regional Organisations

5. REGIONAL ORGANISATIONS

There are six Regional Professional Laboratory Medicine organisations, which can be considered IFCC regional partners:
- Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)
- Latin-American Confederation of Clinical Biochemistry (COLABIOCLI)
- European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)
- Arab Federation of Clinical Biology (AFCB)
- African Federation of Clinical Chemistry (AFCC)
- North American Federation of Clinical Chemistry and Laboratory Medicine (NAFCC)

5.1. Asia Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)

The Asia Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB) had its humble beginnings in the late 1970s. Today in 2018, after forty years of growth and development, the APFCB is the largest of the six regional federations of clinical chemistry and laboratory medicine. The APFCB is a massive regional federation with 18 full Ordinary Members, 6 Affiliate Members and 18 Corporate Members, and we comprise:

The following Full Members:
- Australasian Association of Clinical Biochemists (AACB)
- Chinese Society of Laboratory Medicine (CSLM)
- Hong Kong Society of Clinical Chemistry (HKSCC)
- Association of Clinical Biochemists of India (ACBI)
- Indonesian Association for Clinical Chemistry (IACC)
- Iranian Association of Clinical Laboratory Doctors (IACLD)
- Japan Society of Clinical Chemistry (JSCC)
- Korean Society of Clinical Chemistry (KSCC)
- Mongolian Association of Health Laboratorians (MAHL)
- Malaysian Association of Clinical Biochemists (MACB)
- Nepal Association for Medical Laboratory Sciences (NAMLS)
- Pakistan Society of Clinical Pathologists (PSCP)
- Philippine Association of Medical Technologists (PAMET)
- Singapore Association of Clinical Biochemistry (SACB)
- Association for Clinical Biochemistry, Sri Lanka (ACBSL)
- Chinese Association for Clinical Biochemistry, Taiwan (CACB)
- Thailand Association of Clinical Biochemists (TACB)
- Vietnamese Association of Clinical Biochemistry (VACB)

The following Affiliate Members:
- Association of Medical Biochemists of India (AMBI)
- College of Community Physicians of Sri Lanka (CCPSL)
- Chinese Association of Clinical Laboratory Management (CACLM)
- Macao Laboratory Medicine Association (MLMA)
- Nepalese Association of Clinical Chemistry (NACC)
- Philippine Council for Quality Assurance in Clinical- Laboratories (PCQACL)

In addition, the APFCB has close partnership and collaboration with eighteen in-vitro diagnostic companies, comprising global multinational, regional and local companies. Our corporate partners support the APFCB in many of its activities.

Apart from the size, a feature of the APFCB is the diverse range of laboratory practices, within the federation. This puts us in a unique position for drawing on the expertise of the more developed societies to assist the less developed. Over the years, the APFCB travelling lecturer program has been enabling information and technology transfer within the region.

The APFCB has a good history of collaboration with other international federations. We have a long-standing partnership and good support from the IFCC. In addition, the APFCB has on-going MoUs with the World Association of Societies of Pathology and Laboratory Medicine (WASPaLM) and the American Association for Clinical Chemistry (AACC).

At our last APFCB council meeting in Taipei, Taiwan, we resolved to have the following calendar for future APFCB Congresses:
15th APFCB Congress in Jaipur, India, 17-20 November 2019
16th APFCB Congress in Sydney, NSW, Australia, 15-18 October 2022.
It was also resolved that beyond the year 2022, the APFCB Congresses will be subsequently held every two years, instead of the current three-yearly cycles. This will mean that the 17Th APFCB Congress will be held in 2024, at a destination, which will be decided at the next council meeting.

In 2018, the APFCB EB and Working Committees have put together an ambitious plan for a variety of activities. Details of our ongoing scientific and educational activities are on the APFCB website (www.apfcb.org) and our communications committee will feature a rich array of articles, reports and interesting information.

One highlight activity in 2018 is the AACC- APFCB Global Laboratory Quality Workshop series “Adding Value to Patient Care Using Quality Control”. This will feature a series of workshops in Nepal, Sri Lanka and the Philippines. The team is already putting together an exciting program for the workshops.

The APFCB Executive Board is actively looking for participation from our younger colleagues and laboratory professionals. We do need renewal and succession as we prepare to support our healthcare partners to manage their patients. Do participate in the activities of the APFCB and do step forward to contribute where possible. Everyone else outside the Asia Pacific Region is invited to engage the federation, collaborate with us, participate in our activities and become part of the family.

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5.2. Latin-American Confederation of Clinical Biochemistry (COLABIOCLI)

The Latin American Confederation of Clinical Biochemistry, COLABIOCLI, was founded in 1968 in Mar del Plata, Argentina and all local societies of Latin America for Clinical Chemistry are today its members. In December 1968, in the first Congress of the Confederation, we have the presence, of distinguished professionals: Dr. Bernardo Houssay, Argentina (Nobel Prize), Dr. Luis Leloir, Argentina (Nobel Prize), Dr. Martin Rubin and Dr. Cesar Milstein, Argentina (Nobel Prize).
In 1973, The Latin American Confederation of Clinical Chemistry was officially established during the II Congress of Biochemistry in Porto Alegre Brazil.

Since 1968, COLABIOCLI has developed multiple activities regarding scientific matters and professional regulations. The mission of COLABIOCLI is the improvement of the profession through policies aimed at the continuous improvement of the ethical and scientific standards of Clinical Biochemistry. The main objective is to work together with academic units to reach a consensus of the curricular bases for vocational training in the region and to establish a system of continuous quality improvement in all laboratories in Latin America, with the cooperation of PAHO / WHO, IFCC, the National Societies of Clinical Chemistry, ministries of Public Health and University Authorities in Latin America.

Since its formation important results have been achieved with respect to implementation of continuous quality improvement programmes. Due to the dynamics of knowledge impacting on the progress of clinical laboratory science and technology it has become essential to strengthen alliances with the academic units in the region, for the purpose of managing knowledge, and specific policies for continuous training. By the asymmetry between the countries of the Confederation, actions are needed to achieve implementation of registration and licensing of the profession and to support programmes of external and internal quality assessment to ensure the results of the laboratory as a contribution to public health.

The Latin American Congress is organised every two years. These conferences have been held in Argentina, Brazil, Chile, Costa Rica, El Salvador, República Dominicana, Mexico, Panama, Paraguay, Venezuela and Peru. The average attendance was 1,200 professionals.

One of the main objectives of COLABIOCLI, is give support, to the establishment of programmes of continuous quality improvement in the laboratory. Since 1990 COLABIOCLI, PAHO / WHO with support from other institutions have developed complementary activities:

- Courses and workshops on quality
- Publication of three books on quality assurance
- Visits to various health institutions, to stimulate their interest in our programmes
- Provision control material
- Seminar on the management of external quality assessment
- Training courses for tutors on quality management systems
- Participation in National Congresses and organisation of the Latin American Congress
- Financing of visiting lecturers, according to local needs.
- National regulations and registration of laboratories in the following countries: Argentina, Brazil, Bolivia, Paraguay, Peru, Colombia, Chile, Ecuador, El Salvador, Honduras, Guatemala, Venezuela and Uruguay

The General Assembly of COLABIOCLI elects a National Executive Body for the

following two years. Recent elections have established the lead organization for the National Executive Body as follows:
- 2011-2013 Confederación Unificada Bioquímica de la República Argentina (CUBRA)
- 2014-2015 Confederación Unificada Bioquímica de la República Argentina (CUBRA)
- 2016-2017 Asociación Biochimica Uruguaya (ABU)
- 2018-2019 Asociación Biochimica Uruguaya (ABU)

COLABIOCLI Executive Committee 2018-2019
- President: Dr. QF Stella Raymondo (Uruguay)
- Vice-President: Dr. Álvaro Justiniano (Bolivia)
- Secretary: Dra. QF Ana María Lena (Uruguay)
- Treasurer: BC Natalia Amor (Uruguay)
- 1st Vocal: Technician Méd. Lizbeth Campilla (Panama)
- 2nd Vocal: Dr. Bioq. Micr. Juana Ortellado (Paraguay)
- 3rd Member: Lic. Lourdes Cruz (Dominican Republic)
- Past President: Dr. QF Graciela Queiruga (Uruguay)

COLABIOCLI has developed the following programmes:
- Quality management
- Standard operating procedures
- Documents laboratory
- Internal control and external quality assessment
- Internal and external audits
- Continuing education and training
- Biosafety standards,
- Preventive and corrective maintenance of equipment.

COLABIOCLI also managed to achieve goals in the records of national regulation, in: Argentina, Brazil, Colombia, Cuba, Costa Rica, Dominican Republic, Honduras, Guatemala, Peru, Colombia, Venezuela, Paraguay, Uruguay and Ecuador and, recently, Bolivia.
COLABIOCLI also promotes the implementation of external quality assessment and has an ethical commitment to institutions and professionals of health. The countries with External Quality Assessment are: Argentina, Brazil, Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Colombia, Venezuela, Ecuador, Paraguay, Peru, Spain and Uruguay.

Goals achieved:
1. External quality assessment in 89% of countries.
2. Preparation of control samples: Argentina, Brazil, Colombia, Guatemala, Mexico, Uruguay.
3. 'Guide to Accreditation, Quality Management Course', Second Edition 2009.
4. Establishment of a quality system.
5. Audit of quality management systems.
6. In October 2008, the National Clinical Society of Colombia, held the course, auditing for members of all countries of South America.
7. In June 2009, the National Society of Clinical Chemistry Panama, conducted an auditing course for delegates from Mexico, Central America and the Caribbean.
8. Meetings were organised on external quality assessment in: San Salvador, Guatemala, Honduras, Nicaragua, Dominican Republic, Bolivia, Peru, Uruguay, Ecuador and Colombia.

Strategies and Objectives:
1. The completion of the registration procedures, in all countries
2. Innovation of the external quality programme,
3. Developing professional resources to manufacture reference materials
4. Continuing with the efforts for the establishment of a quality control programme in the Latin American countries.
5. Facilitation of active involvement with health authorities
6. Continuity of local distance learning programmes, and the implementation of national and international guidance for the accreditation programme.

In addition, COLABIOCLI, implements and administers a programme of visiting professors. This ensures participation of lecturers in the Congress of the National Institutions that require it, according to local needs.

One of the policies of COLABIOCLI also includes visits to Ministers of Health, university authorities and national health programmes to strengthen at laboratory professionals and their activities. Many of the activities described above have been supported by PAHO/WHO, in cooperation with the IFCC.

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5.4. European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)

In 2007 The European Federation of Clinical Chemistry and Laboratory Medicine (EFLM formerly EFCC) was formed by the merger of FESCC (Forum of European Societies of Clinical Chemistry) and EC4 (European Communities Confederation of Clinical Chemistry). EFLM connects National Societies of Clinical Chemistry and Laboratory Medicine and creates a platform for all specialists working in the field in Europe. The mission of EFLM is to 1) enhance patient care, 2) improve outcomes by promoting and improving the scientific, professional and clinical aspects of clinical chemistry and laboratory medicine and 3) to ensure effective representation of laboratory medicine both at European Union level and to other pan-European and sub-regional bodies. EFLM represents IFCC in Europe.

All member societies of IFCC in Europe may become members of EFLM. Non-IFCC societies may obtain provisional membership for three years, provided that they apply for IFCC membership in the meantime. The General Meeting is the governing body of EFLM and is composed of a nominated representative from each EFLM National Society Member. It convenes at least once every two years. The main decisions reserved for the General Meeting are: admission and exclusion of member associations as full, provisional or affiliate members; election of the Executive Board; adoption of accounts and budgets; amendment of EFLM Articles of Association; and approval of Executive Board proposed policies. EFLM is legally registered in Belgium. The Operative Office is located in Milan where the office is also maintained in collaboration with IFCC.

Current (Full) membership of EFLM comprises the national societies of the following 40 countries: Albania, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kosovo, Latvia, Lithuania, Luxembourg, Macedonia, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, UK, Ukraine. EFLM has also 1 Affiliate Member: AEFA (Spain) and 1 Provisional Member: SSLM (Slovak Rep).

The operational structure of EFLM consists of an Executive Board (EB) and currently five Committees (C), which conduct out their tasks via Working Groups (WG), Task and Finish Groups (TFG) and Task Groups (TG). Officers of the EB (president, past-president, president-elect, secretary, treasurer and two members-at-large) are elected by the General Meeting for 2-year terms. In the current EB the following countries are represented: Germany, Norway, Croatia, Italy, The Netherlands, Portugal and Czech Republic. Membership and corresponding membership in Cs, WGs is by application and open to nominations by EFLM national societies.
The main activities of EFLM relate to education, research, development of the profession, requirements for competence, quality and accreditation of laboratories, organisation of congresses, and publications. EFLM has five Committees:

- Science (C-S)
- Quality and Regulations (C-QR)
- Profession (C-P)
- Education and Training (C-ET)
- Communication (C-C)

For updates, please visit the EFLM website (www.eflm.eu).

The Science Committee (C-S) focuses on promotion of research that translates the scientific results of laboratory medicine to clinical applications and improves patient outcomes through the appropriate use and interpretation of laboratory data in clinical

practice. The Committee currently has WGs on:

- Biological Variation (WG-BV) which explores the sources of variation in and develops a critical appraisal checklist for papers on biological variation.
- Guidelines (WG-G) for the laboratory investigation and management of various conditions based on best practice.
- Harmonisation of Total Testing Process (WG-H) aims to act as a collector of the harmonization initiatives arising from other WGs or Task and Finish Groups of EFLM and from National Member Societies active in the field and will disseminate them to all the EFLM Member Societies attempting to monitor their application and effects.
- Patient Focused Laboratory Medicine (WG-PFLM) aims to evaluate and study methods for how specialists in laboratory medicine can communicate directly with the patients and how the laboratory can play an active role in patients using self-monitoring for monitoring their disease.
- Personalized Laboratory Medicine (WG-PLM) aims to develop papers on potentials and limits of the most recent laboratory technologies applied in personalized medicine.
- Postanalytical Phase (WG-POST) which carries out international surveys amongst general practitioners and investigates how doctors use and interpret laboratory tests commonly used for managing patients in primary care.
- Preanalytical Phase (WG-PRE) which promotes the perception of the importance of the quality of the preanalytical phase of laboratory medicine by carrying questionnaires for assessing the current practices related to some pre-analytical variables and defining the best practices for some critical activities in the preanalytical phase.
- Test Evaluation (WG-TE) which sets standards and develops practical tools for designing research studies for the evaluation of the clinical value and impact of new biomarkers.

The Quality and Regulations Committee (C-QR) supports the establishment of effective accreditation schemes and quality management systems in all European countries and liaises with ISO, CEN and the European Accreditation body (EA). The Committee currently has one WG on:

- Accreditation and ISO/CEN (WG-A/ISO), which represents EFLM in EA, ISO TC212 and CEN TC140. The WG focuses on influencing ISO/CEN standards and harmonisation of accreditation by international surveys, education and training of assessors related to specific professional standards of ISO 15189 and on setting European procedures for accreditation according to the flexible scope.

The Education and Training Committee (C-ET) has general responsibility for the postgraduate training aspects of the work of EFLM, in liaison with the Congress and Conferences Division and the Education and Management Division of IFCC, and also with UEMS. The Committee organizes regional and sub-regional conferences, workshops and postgraduate continuing education courses in association with relevant national societies. The Committee operates three WGs:

- Congresses and Postgraduate Education (WG-CPE), which is involved in the evaluation of bids for EuroMedLab Congresses, in maintaining the EFLM Speakers Bureau and in developing/ maintain the EFLMLabX project: the EFLM exchange programme. Moreover, the WG is responsible for granting of EFLM auspices.
- Distance education and e-learning (WG-DE), which aims to establish and maintain efficient distance learning channels between EFLM and its member societies in education within the field of clinical chemistry and laboratory medicine.
- Laboratory Medicine Credit Points (WG-LMCP), which aims to establish and run an EFLM project to allocate credit points for educational events held in Europe and address to all Specialists of Laboratory Medicine.

The Professional Committee (C-P) addresses the professional interests of specialists in laboratory medicine across Europe and promotes the contributions of specialists in laboratory medicine to better health and best care. Its aim is to achieve recognition of professional qualifications under European Union legislation based on the principles of free movement of professionals within Europe. It liaises with CEPLIS (European Council of the Liberal Professions) and the European Commission on professional matters and takes the lead in developing pan-European professional and ethical standards.
The Committee currently has one WG on:

- Register (WG-R), which manages the Register of European Specialists in Laboratory Medicine (EuSpLM).

The Communication Committee (C-C) is responsible for efficient communication channels between EFLM and its member societies and other professional institutions, individuals and other targeted audience.via EFLM's website (www.eflm.eu) and EFLM Newsletter "EuroLabNews". The official scientific journal of EFLM is Clinical Chemistry and Laboratory Medicine (CCLM).

- The Committee carries on its activities via its Working Group on Promotion and Publications (WG-P).

Awards. EFLM has four awards:

- The EFLM Scientific Award for Laboratory Medicine – sponsored by Roche. This award is to honour an individual from an EFLM member country, who has made unique contributions to the promotion and understanding of clinical chemistry throughout Europe or who has made one or more contributions that have had a major impact on clinical chemistry. The award is given bi-annually on occasion of the EuroMedLab congresses and is financially supported by Roche with an amount of 7,500 Euros.
- The EFLM Award for Excellence in Outcomes Research in Laboratory Medicine – sponsored by Abbott. The award is presented to the author(s) of the best-published paper, as judged by an independent panel of experts, which demonstrates the relationship between the application of an in-vitro diagnostic test or testing strategy and clinical and/or economic outcomes. The award is given bi-annually on occasion of the EuroMedLab congresses and is financially supported by Abbott with an amount of 5,000 Euros.
- The EFLM Walter Guder Preanalytical Award – sponsored by Becton Dickinson. The award is addressed to young scientists under 40 years of age, who have made a significant contribution to the advancement of the preanalytical phase. The award is given to the best study accepted for peer reviewed publication, where the nominee is the first author and a member of an EFLM member society. The award is financially supported by Becton Dickinson with an amount of 5,000 Euros.
- The EFLM Cardiac Marker Award for remarkable scientific work in the field of cardiovascular diseases – sponsored by HyTest. This award has been created to achieve wider recognition of the importance of high quality research in the field of cardiac markers among laboratory professionals in Europe. The EFLM-HyTest Cardiac Marker Award is granted to a young scientist under 40y for remarkable scientific work in the field of cardiovascular diseases. The award is given bi-annually on the EuroMedLab congresses and is financially supported by HyTest with an amount of 5,000 Euros.

A memorandum of understanding between EFLM and IFCC has formalised the relationship between the two Federations. EFLM has recently published its Corporate membership policy and is aiming to establish various models of collaboration with

corporate partners from the IVD industry by setting up various projects that support the development of the profession in Europe.

Currently EFLM has formalised its collaboration with the following organizations:
AACC (American Association of Clinical Chemistry); AACB (Australasian Association of Clinical Biochemists); CEPLIS (European Council of the Liberal Professions); EC (European Commission); EA (European co-operation for Accreditation); EAPM (European Alliance for Personalised Medicine); EAS (European Atherosclerosis Society); EASL (European Association for the Study of Liver); EDMA (European Diagnostic Manufacturers Association); EuPA (European Proteomics Association); EUCOMED (Medical Devices Industry); ISO-CEN; EPMA (European Ass. for Predictive, Preventive & Personalized Medicine); EQALM (External Quality Assurance Programmes in Laboratory Medicine); ESPT (European Society for Pharmacogenomics and Theranostics); UEMS (European Union of Medical Specialists).

EFLM intends to set up even wider collaboration with sister federations in order to harmonise scientific, educational and professional efforts in a complementary fashion, so that laboratory and health care professionals enjoy the benefits of such a collaboration both in the Euro-region and worldwide.

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5.5. Arab Federation of Clinical Biology (AFCB)

The Arab Federation of Clinical Biology (AFCB) was established in 1974 in Egypt. The AFCB is managed by its Executive Board (EB) that is elected periodically every three years. Each member society in the AFCB is represented by one delegate in the EB. In its first meeting the EB elects its President, Vice-president, Treasurer, General Secretary, and chairs of its needed committees according to its bylaws. The past AFCB President also is a member of the EB. AFCB is a federation of associations, syndicates and bodies representing specialists in the field of laboratory medicine and health, in scientific and educational institutions and in medical laboratories for diagnosis and research in both private and public sectors, within the Arab world.
The twelve countries that currently form the AFCB are:
Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestine, Saudi Arabia, Sudan, Syria, Tunisia, and Yemen.

The aim of the AFCB is to tighten relationships between all those who work in the field of clinical laboratory all over the Arab world, Activities include:

1. Sharing information, expertise and scientific achievements;
2. Organising seminars and training in clinical biology and laboratory medicine;
3. Publishing scientific journals and periodicals specializing in clinical and laboratory medicine;
4. Organising training and educational sessions;
5. Participating in the creation of national bodies and associations within the Arab countries that do not have such organizations in respect to their local legislation;
6. Giving support and advice to national bodies and associations within the Arab countries;
7. Providing consultation and expertise as requested to scientific and production institutions in the Arab world
8. Organising scientific congresses at both regional and national congresses in the Arab world, providing the organising countries with all the scientific support needed;
9. Co-ordinating with the Council of Arab Ministers of Health on clinical laboratory scientific matters;
10. Implementing International Units;
11. Providing support to IVD industry in the Arab world;
12. Supporting quality management programmes in health laboratories.

The AFCB has organised 14 congresses since 1974 in: Egypt (1974, 1980, 1986 and 1988), Syria (1979, 1994 and 2006), Tunisia (1991 and 2004), Jordan (1997), Morocco (2000 and 2012), Lebanon (2009), Sudan (2015).

Our Vision:
To work on the development of the profession and the science of laboratory medicine in the Arabic world.

Our Mission:

1. To be the legitimate voice for the profession of laboratory medicine in the Arabic world.
2. To be lead in the Arab and international community for the profession of laboratory medicine
3. To serve members with the maximum potential.
4. To maintain high professional standards in the practice of medical laboratory sciences in the Arabic world.

Our Objectives:

1. Strengthening the link between workers in the field of clinical laboratory science in the Arab world, and exchange of experiences and scientific information.
2. Organising periodic scientific conferences in the field of clinical laboratory science and scientific symposia, seminars, and exchange briefing visits. Contributing to the Arab national conferences, providing adequate scientific support.
3. Issuing scientific documents and specialised publications.
4. Contributing to the formation and support of national bodies and associations in the Arab countries that do not have such bodies, where such formations, according to the laws and regulations in force in those countries.
5. Providing advice and expertise to the Arab production companies in the field of clinical laboratory reagents and equipment.
6. Supporting programmes of laboratory quality assurance in the Arab world and the exchange of information and scientific advice. This includes studying the possibility of the use of international units.
7. Coordinating with the Council of Arab Ministers of Health in matters of clinical laboratory science.
8. Working on the harmonisation of legislation and laws governing the work of the clinical laboratory in different countries; making an agreement on a common definition of certificates of competence and work with the Arab Health Ministers for approval.
9. Facilitating cooperation and coordination with the World Health Organization in the curricula of rehabilitation, training and quality assurance programs.
10. Promoting the AFCB presence in international and regional organisations concerned with clinical laboratory sciences.

Our Membership:

The Arab Federation of Clinical Biology accepts membership of organisations, associations, trade unions and professional associations that:

- Accept the AFCB Statute and work to achieve its objectives
- Submit a request for enrollment that is consistent with its basic system of the AFCB.

AFCB President
Dr. Mohammed Hassan KAMIL
Director of Kamil's Laboratories for Medical Investigations
Sudanese National Council for Medical and Health Professions
Sudan National Medical Specialization Board
Email: kamil_mhassan@yahoo.com
Website: www.afcbforyou.org

5.6. African Federation of Clinical Chemistry (AFCC)

The African Federation of Clinical Chemistry (www.afccafrica.org) is an organisation of Clinical Chemistry Societies in the African continent, and a regional society of the International Federation of Clinical Chemistry (IFCC). At present, the membership comprises of the following fifteen countries:

- Botswana (no official Society)
- Egypt (Egyptian Society of Clinical Chemistry and Clinical Laboratory Sciences – ESCC)
- Ethiopia (Ethiopian Medical Laboratory Association - EMLA)
- Ghana (no official Society)
- Kenya (Clinical Chemists Association of Kenya)
- Malawi (Malawi Association of Medical Laboratory Scientists - MAMLS)
- Morocco (Société Marocaine de Chimie Clinique - SMCC)
- Nigeria (Association of Clinical Chemists of Nigeria - ACCN)
- Rwanda (Rwanda Society of Pathologists)
- South Africa (South African Association of Clinical Biochemistry - SACB)
- Sudan (Sudanese Association of Clinical Biology - SSCB)
- Tunisia (Société Tunisienne de Biologie Clinique - STBC)
- Uganda (Uganda Association of Biomedical Scientists)
- Zambia (Biomedical Society of Zambia - BSZ)
- Zimbabwe (Zimbabwe Association of Clinical Biochemists - ZACB)

Eleven of these countries are Full Member Societies of the IFCC.

The inaugural congress of the AFCC took place in October 2009 in Ibadan, Nigeria and the second congress was in Nairobi, Kenya 2011. The third congress was held in Cape Town, South Africa in 2013. The fourth congress took place in Harare, Zimbabwe 28-30 April 2015. The fifth congress coincides with the IFCC WordLab congress in October 22 to 25 2017 in Durban, South Africa.

The current Board members serving for the term 2018 - 2020 are: President: Prof RT Erasmus (South Africa), Immediate Past-President: Prof AB Okesina (Nigeria), President-Elect: Dr M Charles Davies (Nigeria), Secretary: H. Lumano (Zambia), Treasurer: Dr J.A.A. Onakoya (Nigeria), Members-at-large: Mr GT Akalu (Ethiopia) and Dr Chabraoui (Morocco).

The aim of the AFCC is to promote and improve the quality of provision of health care services to communities it serves. This is on going through improving the development and practice of clinical chemistry and laboratory medicine through education and excellent scientific exchanges in Africa. To date, academic exchanges between Nigeria and South Africa have been taking place. A major impact that AFCC has enjoyed in recent times is Young Scientist Program of IFCC, which has been a platform to support many young Africans to attend conferences in various part of the world. Recently we have been having communication with Egypt with a view for further collaboration.

Areas of concern in clinical chemistry have been identified and to this end quality management courses have been organised. The clinical case study programme provided by the AACC has continued to be distributed to all AFCC member countries where it is being incorporated in the training of residents. Another important support from IFCC Foundation for Emerging Nations (FEN) is the donation of substantial amount of money to AFCC to start internet radio programme, which is located in Zimbabwe.

AFCC President:
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e-mail: rte@sun.ac.za

5.7. North American Federation of Clinical Chemistry and Laboratory Medicine (NAFCC)

The North American Federation of Clinical Chemistry and Laboratory Medicine (NAFCC) was formed in December of 2014, representing the American Association for Clinical Chemistry (AACC) and the Canadian Society of Clinical Chemists (CSCC), both member societies of the IFCC. The NAFCC was recognized by the IFCC in February of 2015. The NAFCC was formed in response to changes to the structure of the IFCC Executive Board (EB) to allow each federation to nominate a member to the EB, thus providing for regional representation of all IFCC member societies on the EB.

The AACC or CSCC Boards will approve a member to serve as the NAFCC representative to the IFCC EB, alternating between the AACC and CSCC with each new EB election cycle. The representative, as proposed by the AACC, for the period of 2018-2020 is Dr. Ann Gronowski.

The primary responsibility of the NAFCC is to facilitate high level communication in relation to the work of IFCC, including:

- Developing and promoting the contribution of laboratory medicine to healthcare
- Strategic planning, policy direction and implementation

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Chapter 6
International Organisations

6.1. International Organisations that work with IFCC

From its early days, IFCC saw merit in collaboration with other international organisations to share expertise and to avoid duplication. The initial collaboration was with the International Union of Pure and Applied Chemistry (IUPAC). Thereafter, IFCC began a long and fruitful collaboration with the World Health Organization (WHO) where IFCC is established as a recognised non-governmental organisation. Subsequently, the growth of the scientific reputation of IFCC, particularly in the areas of standardisation and reference materials, together with recognition of the quality of its educational endeavours, have led to extensive cooperation with other international organisations. These include:

- Bureau International des Poids et Mesures (BIPM)
- Clinical Laboratory Management Association (CLMA)
- Clinical and Laboratory Standards Institute (CLSI)
- Council of International Organizations of Medical Sciences (CIOMS)
- European Commission Joint Research Centre (EC-JRC).
- Guidelines for Uncertainty in Measurement (GUM) (JCGM WG1)
- International Association for Therapeutic Drug Monitoring and Clinical Toxicology (IATDMCT)
- International Committee for Standardization in Haematology (ICSH)
- International Committee for Weights and Measures (CIPM)
- International Consortium for Harmonization of Clinical Laboratory Results (ICHCLR)
- International Diabetes Federation (IDF)
- International Organization for Standardization (ISO)
- International Osteoporosis Foundation (IOF)
- International Health Terminology Standards Development Organisation (IHTSDO)
- International Laboratory Accreditation Cooperation (ILAC)
- International Organization of Legal Metrology (OIML)
- International Union of Pure and Applied Chemistry (IUPAC)
- International Union of Biochemistry and Molecular Biology (IUBMB)
- International Union of Immunological Societies (IUIS)
- International Union of Physiological Sciences (IUPS)
- International Society for Thrombosis and Haemostasis (ISTH)
- Joint Committee for Guides in Metrology (JCGM)
- Joint Committee on Traceability in Laboratory Medicine (JCTLM)
- Kidney Disease Improving Global Outcomes (KDIGO)
- National Institute for Biological Standards and Control (NIBSC)
- National Institute of Standards (NIST)
- Vocabulary in Metrology (VIM) (JCGM WG2)
- World Association of Societies of Pathology and Laboratory Medicine (WASPALM)
- World Health Organization (WHO)

Chapter 7
Congresses and Conferences Committee

7.1. Congresses and Conferences
7.1.1. Mission statement
7.1.2. Strategy
7.1.3. Projects

7.2. International Congresses of Clinical Chemistry and Laboratory Medicine (ICCCLM) (WorldLab)

7.3. Regional Congresses of Clinical Chemistry and Laboratory Medicine (RCCCLM)
7.3.1. Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)
7.3.2. European Federation of Clinical Chemistry and Laboratory Medicine EFLM (EuroMedLab)
7.3.4. Latin American Confederation of Clinical Biochemistry (COLABIOCLI)
7.3.6. Arab Federation of Clinical Biology (AFCB)
7.3.7. African Federation of Clinical Chemistry (AFCC)

7.4. IFCC Specialised Conferences
7.4.1. Roche Bergmeyer Conference

7.5. Congress Guidelines and Other Documents

7.8. IFCC Auspices

7.9. IFCC General Conference

CONGRESSES AND CONFERENCES COMMITTEE (C-CC)

Chair:
Dr. James WESENBERG (CA)

Members:
Prof. Montserrat BLANES GONZALES (PY)
Prof. Tomas ZIMA (CZ)

Corporate Member:
Ms. Cheryl Jackson (US)

Corresponding Members:
Prof. Rajv ERASMUS (ZA)
Dr. Woei-horng - FANG (TN)
Ms. Elizabeth FRANK (US)
Ms. Orla MAGUIRE (IE)
Prof. Helen MARTIN (AU)

7. Congresses and Conferences Committee (C-CC)

The Committee on Congresses and Conferences was established in December 2007, and is the continuation of the former Congress and Conference Division (CCD), which was founded in 1996, but with an expanded charter and responsibilities. The C-CC has the major administrative and managerial responsibility within the IFCC for all meetings coordinated by the IFCC.

7.1. C-CC Executive

Name	Position	Country	Term	Time in Office
J. Wesenberg	Chair	CA	2nd	2018 1 – 2020 12
M. Blanes Gonzáles	Corr. Member	PY	1st	2018 1 – 2020 12
T. Zima	Member	CZ	2nd	2017 1 – 2019 12
C. Jackson	Corp. Rep.	US	1st	2018 1 – 2020 12
R. Erasmus	Corr. Member	ZA		
W. Fang	Corr. Member	TU		
O. Maguire	Corr. Member	IE		
H. Martin	Corr. Member	AU		

7.1.1. Mission statement

The mission of the C-CC is to provide general administration and management of all IFCC meeting activities (congresses, conferences, and symposia) and to review applications for IFCC auspices from non-IFCC conferences requesting such sponsorship.

7.1.2. Strategy

The C-CC supports and promotes Clinical Laboratory Sciences through congresses, conferences, specialised meetings, and other professional meetings. The C-CC works closely with the organisers of the various IFCC related conferences to ensure that they achieve organisational and professional excellence.

7.1.3. Projects

- The C-CC formulates and updates as required the guidelines, procedures and practices for IFCC-designated meetings, and also monitors compliance throughout the planning and organisational stages. The C-CC assists the organising groups in the administration and promotion of conferences, and helps these conferences obtain support, and achieve financial efficiency in the various economical aspects of their meetings.
- The C-CC reviews all existing meeting guidelines every three years to ensure their continued applicability and will write new guidelines for those meetings not covered by existing procedures.
- The C-CC maintains a current 5-year listing of congresses and conferences of professional interest to the members of the IFCC, including both IFCC related conferences and those outside the IFCC. This allows members to be aware of these meetings and allows potential conference organisers to plan the dates of their meetings with care.
- The C-CC designates as official IFCC approved meetings those conferences that conform to the requirements of the IFCC as a professional organisation, in order to promote the field of clinical laboratory sciences and protect the interests of the IFCC. Within the framework of the IFCC designated meetings, the C-CC will promote the

IFCC and its functional units and discuss the possibility of integration of IFCC units and members in the programme of the conference.
- The C-CC assists in expanding the list of IFCC Master Conferences on specific scientific and educational topics and promotes the leadership role of the IFCC in the field of Clinical Laboratory Sciences.

7.2. International Congresses of Clinical Chemistry and Laboratory Medicine (ICCCLM)

I	Amsterdam	NL	1954
II	New York	US	1956
III	Stockholm	SE	1957
IV	Edinburgh	UK	1960
V	Detroit	US	1963
VI	Munich	DE	1966
VII	Geneva/Evian	CH/FR	1969
VIII	Copenhagen	DK	1972
IX	Toronto	CA	1975
X	Mexico City	MX	1978
XI	Vienna	AT	1981
XII	Rio de Janeiro	BR	1984
XIII	The Hague	NL	1987
XIV	San Francisco	US	1990
XV	Melbourne	AU	1993
XVI	London	UK	1996
XVII	Florence	IT	1999
XVIII	Kyoto	JP	2002
XIX	Orlando	US	2005
XX	Fortaleza	BR	2008
XXI	Berlin	DE	2011
XXII	Istanbul	TR	2014
XXIII	Durban	ZA	2017
XXIV	Seoul	KR	2020
XXV	Rome	IT	2023

7.3. IFCC Regional Congresses of Clinical Chemistry and Laboratory Medicine (RCCCLM)

7.3.1. Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)

I	Singapore	SG	1979
II	Singapore	SG	1982
III	Bali	ID	1986
IV	Hong Kong	HK	1988
V	Kobe	JP	1991
VI	Melbourne	AU	1993
VII	Bangkok	TH	1995
VIII	Kuala Lumpur	MY	1998
IX	New Delhi	IN	2001
X	Perth	AU	2004
XI	Beijing	CN	2007
XII	Seoul	KR	2010

XIII	Bali	ID	2013
XIV	Taiwan	TW	2016
XV	Jaipur	IN	2019

7.3.2. European Federation of Clinical Chemistry and Laboratory Medicine (EFLM formerly EFCC)

I	Munich	DE	1974
II	Prague	CZ	1976
III	Brighton	UK	1979
IV	Vienna	AT	1981
V	Budapest	HU	1983
VI	Jerusalem	IL	1985
VII	The Hague	NL	1987
VIII	Milan	IT	1989
IX	Krakow	PL	1991
X	Nice	FR	1993
XI	Tampere	FI	1995
XII	Basel	CH	1997
XIII	Florence	IT	1999
XIV	Prague	CZ	2001
XV	Barcelona	ES	2003
XVI	Glasgow	UK	2005
XVII	Amsterdam	NL	2007
XVIII	Innsbruck	AT	2009
XIX	Berlin	DE	2011
XX	Milan	IT	2013
XXI	Paris	FR	2015
XXII	Athens	GR	2017
XXIII	Barcelona	ES	2019
XXIV	Munich	DE	2021

7.3.4. Latin American Confederation of Clinical Biochemistry (COLABIOCLI)

I	Mar del Plata	AR	1968
II	Porto Alegre	BR	1973
III	Caracas	VE	1976
IV	Bogota	CO	1977
V	San Salvador	SA	1979
VI	Santo Domingo	DO	1981
VII	Rio de Janeiro	BR	1984
VIII	Cartagena de Indias	CO	1986
IX	Caracas	VE	1989
X	Santo Domingo	DO	1991
XI	Acapulco	MX	1993
XII	Buenos Aires	AR	1995
XIII	Caracas	VE	1997
XIV	Puerto Rico	PR	1999
XV	Florianopolis	BR	2001
XVI	San José	CR	2003
XVII	Asunción	PY	2006
XVIII	Panama	PA	2007
XIX	Santiago del Chile	CL	2010
XX	Punta Cana	DO	2011

XXI	Lima	PE	2013
XXII	Quito	EC	2015
XXIII	Punta del Este	UY	2017
XXIV	Panama	PA	2019

7.3.6. Arab Federation of Clinical Biology (AFCB)

I	Cairo	EG	1974
II	Faihaa	SY	1976
III	Cairo	EG	1980
IV	Cairo	EG	1983
V	Cairo	EG	1986
VI	Tunis	TN	1991
VII	Faihaa	SY	1994
VIII	Amman	JO	1997
IX	Rabat	MA	2000
X	Monastir	TN	2004
XI	Damascus	SY	2006
XII	Beirut	LB	2009
XII	Marrakech	MA	2012
XIV	Khartoum	SD	2015
XV	Palestine	PA	2018

7.3.7. African Federation of Clinical Chemistry (AFCC)

I	Ibadan	NG	2009
II	Nairobi	KE	2011
III	Harare	ZW	2015
IV	Durban	ZA	2017

7.4. IFCC Specialised Conferences

7.4.1. IFCC-Roche Diagnostics Bergmeyer Conferences Goals and Objectives

- The Bergmeyer Conferences founded in 1987 are a collaborative effort of IFCC and Roche Diagnostics focused on issues of standardisation.
- The objectives of these Conferences are:
  - Improving the Comparability and Compatibility of Laboratory Assay results in life sciences;
  - Improving the Clinical Value of Laboratory Data;
  - Discussion of Standardisation Issues and suggesting solutions in order to achieve the first two objectives;
  - Master Discussion of Experts and a Brain Storming Forum for projects to be executed by Scientific Division's Committees or Working Groups.
- Each Conference is devoted to a rapid developing new area relevant for laboratory science and clinical medicine. The scope of a Conference is to be organised in that manner that besides comprehensive review also future trends, analytical pitfalls and the rationale, clinical use of the diagnostic procedures have to be considered.
- These Conferences are Master Discussions of experts in the respective topic of a Conference. Participation is only possible on invitation.
- The governing body of these Conferences is the Steering Committee consisting of IFCC (3), the editor of the proceedings (1) and Roche Diagnostics (1) representatives.
- Conferences are held in Eibsee, Germany.
- Lectures and contributions presented at the Conferences are published in the Conference proceedings.

Steering Committee

Name	Position	Country	Time in Office
P. Gillery	IFCC-SD Chair	(FR)	2017 -2019
J. Passarelli	Roche Diagnostics	(US)	2011 -on going
A. Kallner	Editor of Proceedings	(SE)	1988 -on going
L. Lai	IFCC-EMD Chair	(MY)	2015 - 2020
J. Wesenberg	IFCC C-CC Chair	(CA)	2015 - 2020

Terms of Reference

- Organisation of Bergmeyer Conferences:
  - Selection of date and topic;
  - Responsibility for the scientific content and selection of speakers;
  - Appointment of an ad hoc Working Group (occasionally) for the preparation of draft documents to be circulated prior to the respective Conference to the participants;
  - Review of the organisational and financial commitments.
- Review of documents produced in conjunction with each Conference;
- Submission of documents to the Scientific Division for final approval;
- Publication of proceedings - Appointment of editors;
- The Proceedings are published in the 'The Scandinavian Journal of Clinical and Laboratory Investigation';
- Collaboration with Roche Diagnostics and the local organising group
- Report to Scientific Division, information to the Congresses and Conferences Committee;
- The Membership to be nominated by SD and approved by EB. The terms of the
- IFCC members are usually 3 years; re-appointments are possible.

Recent Conferences

VII	1999	Biochemical markers for myocardial damage
VIII	2001	Biochemical markers of autoimmune disease
IX	2003	Nucleic acid markers for bacterial and viral infections in intensive care
X	2005	Diabetes and cardiovascular disease
XI	2008	Markers of kidney disease
XII	2010	Novel biomarkers: from discovery to clinical application
XIII	2012	Vitamin D in health and disease
XIV	2014	Women's health
XV	2016	Biomarkers in the Diagnosis and Monitoring of Cancer

7.5. Congress Guidelines and Other Documents

The following documents have been prepared by the C-CC. They are updated regularly on the website (www.ifcc.org).

Congress Guidelines

- International Congress of Clinical Chemistry and Laboratory Medicine (ICCCLM) (WorldLab) Guidelines (pdf)
- International Congress of Clinical Chemistry and Laboratory Medicine (ICCCLM) (WorldLab) Application Form (xls)
- IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine (EuroMedLab) Congress Guidelines (pdf)
- IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine (EuroMedLab) Application Form (xls)

Guidance for National/International Congresses
- Guidance for National/International Congresses (pdf)

Scientific Programme Guidelines
- Scientific Programme Guidelines for an ICCCLM (WorldLab) (pdf)
- Scientific Programme Guidelines for an IFCC-EFLM Congress (EuroMedLab) (pdf)

Guidelines for Compliance with Applicable Codes of Ethical Business

Satellite Meeting Guidelines for an IFCC Sponsored Congress or Conference

7.8. IFCC Auspices

The following documents have been prepared by the C-CC. They are updated regularly on the website (www.ifcc.org).

- IFCC Auspices Guidelines (pdf)

- IFCC Auspices Application Form (doc)

IFCC Auspices designates recognition of a professional conference activity of high scientific and/or educational level.

IFCC is committed to maintaining and promoting a world-wide exchange of information in Clinical Chemistry and all disciplines of Laboratory Medicine. Therefore, a major effort should be made in the academic, clinical and industrial setting to create links of communication for clinical laboratory scientists and physicians through highly qualified professional meetings which the IFCC may support in a variety of ways. According to this, IFCC is interested in granting its Auspices for meetings, conferences and congresses in order to assist conference organising committees to promote their meeting and attract a large professional participation.
The granting of IFCC Auspices, and its involvement in conferences enhancing the field of Laboratory Medicine, furthers the reputation of IFCC.

Specific guidelines (available on the IFCC website) have been prepared to assist groups to apply for IFCC Auspices for their meetings, symposia, conferences and congresses.

The granting of IFCC Auspices does not imply any financial agreement between the organisers of the event and the IFCC. It indicates that the official IFCC logo should be used on all relevant brochures and publications. Moreover, notices of meetings approved for IFCC Auspices will be included in the congress calendar which is part of the IFCC web-site (www.ifcc.org) and circulated by mail to the IFCC mailing list.

IFCC Auspices may be sought by:
Any IFCC Member Society, Specialty Group or Corporate Member;
The organising committee of any meeting, conference or congress outside the IFCC in which the meeting topics are directly related to the goals of the IFCC.

7.9. IFCC General Conference

Aim

The aim of the IFCC General Conference is to convene all the IFCC functional units at one time and location, in order to discuss present activities and projects, and to plan and decide on future actions of the organisation.

Responsibilities

- The Committee on Congresses and Conferences (C-CC) of the IFCC bears overall responsibility for the organisation of the General Conference.
- The IFCC Secretary is responsible for the Conference agenda.
- The IFCC Executive Board is responsible for detailed programme content.
- The IFCC Office will carry out the administrative activities in preparing for the Conference in collaboration with the C-CC and a local organising committee from the national society of the country where the meeting is being held.

Time and Venue

- A General Conference is held once during the triennial term of the ExecutiveBoard (EB) of IFCC, usually during the second year. The EB decides on the time of the year at which to hold this Conference.
- The EB will decide on the venue for the IFCC General Conference following a recommendation from the C-CC.
- The duration of the General Conference is 2 days, and is preceded by 2 days of an EB meeting and meetings of the Divisions and Committees. This period is required to enable all the IFCC functional units to meet individually and collectively.

Scope

- Prior to the General Conference, all IFCC functional units carry out their own meetings, meet with their immediate and/or Divisional supervisors, and report on the progress of their projects and on project proposals. The Division Executives then meet with the EB to present the status of their Division, and to obtain consent for future and/or continuing activities.
- Representatives from Full Members and Corporate Members join IFCC functional units for the General Conference proper.

Conferences

I	Rungestedgaard	DK	1981
II	Rungestedgaard	DK	1984
III	Monza	IT	1988
IV	Pont-à-Mousson	FR	1992
V	Leipzig	DE	1995
VI	Sevilla	ES	1998
VII	Dubrovnik	HR	2001
VIII	Sousse	TN	2004
IX	Antalya	TR	2008
X	Corfu	GR	2010
XI	Kuala Lumpur	MY	2012
XII	Madrid	ES	2016
XIII	Budapest	HU	2018

List of Addresses

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Chapter 8
Scientific Division

8.1. Scientific Division Executive Committee

8.1.1. Mission Statement
8.1.2. Strategy
8.1.3. Projects
8.1.4. Terms of Reference

8.2. Scientific Division Committees

8.2.6. Nomenclature, Properties and Units (C-NPU) in collaboration with International Union of Pure and Applied Chemistry (IUPAC)
8.2.11. Molecular Diagnostics (C-MD)
8.2.23. Traceability in Laboratory Medicine (C-TLM)
8.2.24. Reference Intervals and Decision Limits (C-RIDL)
8.2.25. Standardisation of Thyroid Function Tests (C-STFT)
8.2.26. Harmonisation of Autoimmune Tests (C-HAT)

8.3. Scientific Division Working Groups

8.3.35. Standardisation of Hemoglobin A2 (WG-HbA2)
8.3.36. Carbohydrate-Deficient Transferrin (WG-CDT)
8.3.39. Standardisation of Albumin Assay in Urine (WG-SAU) in collaboration with National Kidney Disease Education Program (NKDEP)
8.3.40. Standardisation of Pregnancy-Associated Plasma Protein A (WG-PAPP A)
8.3.41 Growth Hormone (WG-GH)
8.3.42. Standardisation of Insulin Assays (WG-SIA) in collaboration with American Diabetes Association (ADA) and European Association for the Study of Diabetes (EASD)
8.3.43. Standardisation of Troponin I (WG-TNI)
8.3.48. Parathyroid Hormone (WG-PTH)
8.3.49. CSF-Proteins (WG-CSF)
8.3.50. Standardisation of Bone Marker Assays (WG-SBMA) in collaboration with IOF
8.3.51. Commutability (WG-C)
8.3.53. Immunosuppressive Drugs (WG-ID)
8.3.54. Apolipoproteins by Mass Spectrometry (WG-APO MS)
8.3.55 Pancreatic Enzymes (WG-PE)
8.3.56. Fecal Immunochemical Testing (WG-FIT)
8.3.57. Cell free DNA and related circulating biomarkers (WG-cfDNA)
8.3.58. Standardisation of Procalcitonin Assays (WG-PCT)
8.3.59. Vitamin D Standardization Program (WG-Vit D)

SCIENTIFIC DIVISION
EXECUTIVE COMMITTEE (SD-EC)

Chair:
Prof. Philippe GILLERY (FR)

Vice Chair:
Prof. Christa M COBBAERT (NL)

Secretary:
Mr. Joseph PASSARELLI (US)

Members:
Dr Barnali DAS (IN)
Dr. Konstantinos MAKRIS (GR)
Prof. Mario PLEBANI (IT)

Corporate Representative:
Mr. James F. PIERSON-PERRY (US)

European Commission – JRC Observer:
Dr. Heinz SCHIMMEL (BE)

JCTLM Chair – SD Consultant
Dr. Gary L. MYERS (US)

NIBSC Consultant:
Dr. Chris BURNS (UK)

NIST Consultant:
Dr. Karen W. PHINNEY (US)

CHAIRS OF SCIENTIFIC DIVISION COMMITTEES AND WORKING GROUPS

8.1. Executive

P. Gillery (FR)

8.2. Committees

8.2.6. Nomenclature, Properties and Units (C-NPU) in collaboration with International Union of Pure and Applied Chemistry (IUPAC)	K. Toska (NO)
8.2.11. Molecular Diagnostics (C-MD)	D. Payne (US)
8.2.23. Traceability in Laboratory Medicine (C-TLM)	A. Kessler (DE)
8.2.24. Reference Intervals and Decision Limits (C-RIDL)	Y. Ozarda (TR)
8.2.25 Standardisation of Thyroid Function Tests (C-STFT)	H. Vesper (US)
8.2.26 Harmonization of Autoimmune Tests (C-HAT)	J. Sheldon (UK)

8.3. Working Groups

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8.3.36. Carbohydrate-Deficient Transferrin (WG-CDT)	J. Deenmamode (UK)
8.3.39. Standardisation of Albumin Assay in Urine (WG-SAU) in collaboration with National Kidney Disease Education Program (NKDEP)	L.M. Bachmann (US)
8.3.40. Standardisation of Pregnancy-Associated Plasma Protein A (WG-PAPP A)	S. Wittfooth (FI)
8.3.41 Growth Hormone (WG-GH)	E. Lentjes (NL)
8.3.42. Standardisation of Insulin Assays (WG-SIA) in collaboration with American Diabetes Association (ADA) and European Association for the Study of Diabetes (EASD)	A. Saenger (US)
8.3.43. Standardisation of Troponin I (WG-TNI)	R. Christenson (US)
8.3.48. Parathyroid Hormone (WG- PTH)	C. Sturgeon (UK)
8.3.49. CSF-Proteins (WG-CSF)	J. Gobom (SE)
8.3.50. Standardisation of Bone Marker Assays (WG-BMA) in collaboration with IOF	E. Cavalier (BE)
8.3.51 Commutability (WG-C)	G. Miller (US)
8.3.53 Immunosuppressive Drugs (WG-ID)	C. Seger (CH)
8.3.54 Apolipoproteins by Mass Spectrometry (WG-APO MS)	C. Cobbaert (NL)
8.3.55 Pancreatic Enzymes (WG-PE)	D. Grote-Koska (DE)
8.3.56 Fecal Immunochemical Testing (WG-FIT)	S. Benton (UK)
8.3.57 Cell free DNA and related circulating biomarkers (WG-cfDNA)	R. van Schaik (NL)
8.3.58 Standardisation of Procalcitonin Assays (WG-PCT)	V. Delatour (FR)
8.3.59 Vitamin D Standardization Program (WG-Vit D)	C. Sempos (US)

8. Scientific Division (SD)

A Committee on Standards was established in 1966 “to instigate and promote theoretical and practical developments in the field of standards and standardisation in clinical chemistry - in its broadest sense.” During its first decade, the main efforts of the Committee were directed toward (1) analytical nomenclature, (2) reference materials and methods, and (3) quality control. Its achievements during this period are illustrated by the list of publications on these topics. Following a Council decision in 1978, efforts have been made to extend its work to include more subjects of interest both to clinicians and clinical chemists and laboratorians. Accordingly, the name of the Committee was changed to the Scientific Committee and later to the Scientific Division.
The Division and its activities are managed by an Executive Committee. This Committee is responsible for (1) developing a mission statement, (2) developing strategy and tactics, (3) initiating and managing projects, and (4) generating and adhering to its Terms of Reference.

8.1. SD-Executive Committee (SD-EC)

Membership

Name	Position	Country	Term	Time in Office
P. Gillery	Chair	FR	1st	2017 01 - 2019 12
C. Cobbaert	Vice-Chair	NL	1st	2017 01 - 2019 12
J. Passarelli	Secretary	US	2nd	2018 01 - 2020 12
K. Makris	Member	GR	1st	2017 01 - 2019 12
B. Das	Member	IN	1st	2018 06 - 2020 12
M. Plebani	Member	IT	1st	2017 01 - 2019 12
J.F. Pierson-Perry	Corporate Member	US	2nd	2018 01 - 2020 12
H. Schimmel	European Commission JRC Observer	BE		
G. Myers	JCTLM Chair / Consultant	US		
C. Burns	NIBSC Consultant	UK		
K. Phinney	NIST Consultant	US		

8.1.1. Mission Statement

The mission of the SD is to advance the science of Clinical Chemistry and Laboratory Medicine and to apply it to the practice of Clinical Laboratory Science.

8.1.2. Strategy

According to the Statutes of IFCC, the Federation exists to advance the science and practice of Clinical Chemistry and Laboratory Medicine and to further their application in the provision of health services and the practice of medicine. The strategic and tactical goals to which the Scientific Division is committed are to:

- Identify research areas of relevance to Clinical Chemistry and Laboratory Medicine and assist the transfer of research results to the profession.
- Identify scientific and technological problems in current practice and provide solutions and guidelines on how to resolve them.
- Facilitate the development and transfer of technical innovations to clinical laboratory professionals and clinicians.
- Facilitate the development and implementation of diagnostic strategies.
- Establish standards for scientific and technical aspects of good laboratory practice.

- Facilitate the development of reference measurement processes and the production of reference materials
- Establish networks of reference laboratories
- Respond to scientific and technical needs of IFCC Member Societies, IFCC Corporate Members and external agencies.
- Participate actively in the scientific programmes of IFCC congresses and other scientific meetings.
- Ensure the quality of IFCC scientific documents.
- Organise Master Discussions.

8.1.3. Projects

The SD initiates and manages projects with its own resources or through its Committees and Working Groups. Work is conducted in cooperation with other IFCC units and with relevant National and International Organisations. The SD ensures that each of its Committees and Working Groups are functioning under clear terms of reference together with an agreed schedule of activity. The SD will assist in the development of the project proposals and will undertake an annual review of progress and review and approve any documents that result from the work.

8.1.4. Terms of Reference

The SD consists of up to six IFCC sponsored-individuals, which include the Chair and the Vice-Chair, and additionally one individual is nominated by the Corporate Members of IFCC. The Division may co-opt additional member(s) to address specific issues. The Chair, the Vice-Chair and all Full Members are appointed by EB after consultation between the EB, SD and Member Societies.

The SD working units are Committees, that are theme-oriented, and Working Groups, that are task-oriented. Committees (C) are usually funded by IFCC for one full meeting per year. Only the Chair of Working Groups (WG) is normally funded by IFCC; however, a WG may be partially or totally supported by IFCC, Member Societies, Corporate Members or other Organisations.

8.2. SD Committees

Over the years, the SD has initiated and managed a number of applicable committees. These have been numbered sequentially with the Mueller numbering system beginning with 8.2.1. Current committees and their activities are listed below. Earlier Committees and those with missing numbers are found in prior editions of the IFCC Handbook.

8.2.6. Nomenclature, Properties and Units (C-NPU) in collaboration with IUPAC

Membership

Name	Position	Country	Term	Time in Office
K. Toska	Chair	NO	1st	2018 01 - 2020 12
Y.B.L. Hansen	Member	DK	1st	2017 03 - 2019 12
A. Jabor	Member	CZ	2nd	2016 03 - 2018 12
F. Scherrer	Member	FR	2nd	2018 01 - 2020 12
E. van der Hagen	Member	NL	1st	2018 03 - 2020 12
R. Dybkaer	Consultant	DK		

Terms of Reference

- To continuously provide advice in relation to the management, updating and publishing of NPU terminology.
- To make recommendations on NPU for reporting clinical laboratory data that conform to or adapt current standards of authoritative organisations, and that will improve their utilization for health care.
- To provide a connection with other organisations concerned with NPU, such as the Bureau International des Poids et Mesures (BIPM), the European Committee for Standardization (CEN) and the International Organization for Standardization (ISO), and, by extension, clinical laboratory sciences societies, such as the International Union of Pure and Applied Chemistry (IUPAC), and the in vitro diagnostics industry, to ensure that problems encountered by health care professionals in the area of NPU are considered by those organisations.
- To act as a consultant group on NPU in clinical chemistry and, by extension, in the rest of clinical laboratory sciences to international scientific panels, regional and national clinical laboratory sciences organisations, editors of scientific journals, manufacturers of clinical laboratory instrumentation and products, and to individual clinical laboratory professionals and other health care professionals.
- To report and offer advice to the SD Chair and the SD Executive Committee on matters concerning NPU in all its aspects (all items above).

Current Projects

- Transfer of the NPU generic database to IFCC site: help and advice on training the future IFCC NPU database manager(s) in relation to the installation, updating and management of the database, and on its relationship relations with other national versions.
- Mapping of the IFCC-IUPAC laboratory coding system to SNOMED CT.
- Securing and structural updating of information in the NPU coding system and its environment.
- Development of an international vocabulary for nominal examinations in scientific communication.

8.2.11. Molecular Diagnostics (C-MD)

Membership

Name	Position	Country	Term	Time in Office
D. Payne	Co-Chair	US	2nd	2016 01 - 2018 12
M Linder	Co-Chair	US	1st	2017 03 - 2018 12
P. Ahmad-Nejad	Member	DE	2nd	2016 01 - 2018 12
T. Framroze Ashavaid	Member	IN	1st	2017 05 - 2018 12
G. Russomando	Member	PY	2nd	2016 01 - 2018 12
O. Slanař	Member	CZ	1st	2017 05 - 2018 12
W. Steimer	Member	DE	1st	2018 05 - 2020 12
M. Relling	Consultant	US		
H. Parkes	Consultant	UK		

Terms of Reference

- To foster dynamic exchanges between IFCC and molecular diagnostic laboratories and industry
- To produce guidelines on clinical validation of tests, conduct and reporting of molecular diagnostic tests
- To create a network of locus-specific IFCC Molecular Diagnostics Centres

Current Projects

- Establish an International Network of IFCC Reference Centres in Molecular Diagnostics
- Standardise formats for reporting of molecular diagnostic results
- Facilitate integration of pharmacogenetic testing into routine diagnostics at the appropriate quality standards

8.2.23. Traceability in Laboratory Medicine (C-TLM)

Membership

Name	Position	Country	Term	Time in Office
A. Kessler	Chair	DE	1st	2018 01 - 2020 12
J. Anetor	Member	NG	2nd	2018 01 - 2020 12
F. Canalias	Member	ES	1st	2016 06 - 2018 12
R.H. Girardi	Member	AR	1st	2018 03 - 2020 12
J. Infusino	Member	IT	1st	2017 03 - 2019 12
L. Mackay	Member	AU	2nd	2016 01 - 2018 12
C. Weykamp	Consultant	NL		
G. Schumann	Consultant	DE		

Terms of Reference

- To support activities regarding Traceability in Laboratory Medicine, permitting IFCC to continue its international role in this area and providing an operating link between the SD and the WGs of the Joint Committee on Traceability in Laboratory Medicine (JCTLM), concerning identification of reference measurement procedures, reference materials and reference laboratories.
- To support reference laboratories in the context of complete reference systems (accepted reference measurement procedures of higher order, reference materials, and reference laboratories) by establishing an External Quality Assessment Scheme (EQAS) for reference laboratories in order to monitor their competence.
- To promote establishment and maintenance of IFCC reference laboratory networks for clinically relevant measurands (e.g. the IFCC HbA1c network).

Current Projects

- Organisation of IFCC Ring Trials for reference laboratories

8.2.24. Reference Intervals and Decision Limits (C-RIDL)

Membership

Name	Position	Country	Term	Time in Office
Y. Özarda	Chair	TR	1st	2016 01 - 2018 12
D. Kang	Member	JP	1st	2016 06 - 2018 12
J. Macri	Member	CA	2nd	2017 01 - 2019 12
K. Sikaris	Member	AU	1st	2017 03 - 2019 12
T. Streichert	Member	DE	1st	2017 03 - 2019 12
B. Yadav	Member	NP	2nd	2017 01 - 2019 12

Terms of Reference

- To review current concepts of establishing reference intervals and decision limits and to prepare state-of-the-art position statements regarding new avenues
- To make available reference intervals and decision limits that respect the requirements of international directives such as the European IVD Directive 98/79, and relevant ISO standards

- To determine priority list of measurands (analytes) for which reference intervals and/or decision limits have to be developed, considering various factors, such as age, gender, ethnicity, and for which the greatest improvements in medical decision making are anticipated
- To monitor and evaluate currently proposed reference intervals for selected measurands (analytes) in the light of the concept of traceability and of the identification of the uncertainty
- To establish transferabilty protocols of reference intervals and decision limits, which take into consideration inter-routine laboratory method variations and achieve better applicability in clinical practice
- To collaborate with other organisations and/or to undertake establishment of reference intervals or decision limits for measurands (analytes) identified as a priority
- To work in close collaboration with other Cs and WGs of SD and other IFCC Divisions for the development and appropriate clinical utilization of reference intervals and decision limits

Current Projects
- Conduction of a new study to compare alternative approaches (conventional and big data) for the determination of reference intervals
- Creation of a website to provide the reference intervals obtained from the global study for practice of Evidence Based Laboratory Medicine
- Preparation of a publication on the distinction of Reference Intervals and Clinical Decision Limits

8.2.25. Standardisation of Thyroid Function Tests (C-STFT)

Membership

Name	Position	Country	Term	Time in Office
H. Vesper	Chair	US	1st	2018 01 - 2020 12
A. Hishinuma	Member	JP	1st	2018 03 - 2020 12
J. Kratzsch	Member	DE	1st	2018 03 - 2020 12
K. Van Uytfanghe	Member	BE	1st	2018 03 - 2020 12
M.M. Patru	Member/OCD	US	2nd	2018 01 - 2020 12
M. Rottmann	Consultant	DE		
L. Thienpont	Consultant	BE		

In the previous terms, the committee developed the basis needed to implement standardization of thyroid function tests. Specifically, the committee:
- Developed reference measurement systems (reference materials/reference methods) to establish traceability of free thyroid hormone and TSH assays,
- Provided an infrastructure for procurement of serum panels,
- Demonstrated that the traceable assays can use a common reference interval,
- Informed the clinical and research community about the importance of standardised tests.

Building on these accomplishments, the current committee set the following terms of reference:

Terms of Reference:
- Establish a system to maintain traceability of free thyroid hormone and TSH measurements,
- Coordinate programs to evaluate free thyroid and TSH assays with regards to their analytical performance,

- Develop reference intervals for free thyroid hormones and TSH,
- Liaise with key stakeholders to promote the use of the standardised assays in routine clinical practice and public health, to ensure analytical performance requirements meet clinical needs, and to help with developing and establishing reference intervals.

Current Projects:
- Establishment of a reference laboratory network,
- Develop and establish follow-up panel for TSH,
- Collaborate with relevant organizations to ensure that free thyroid hormones and TSH are standardised consistently,
- Collaborate with stakeholders to define reference populations and plan study to establish reference intervals,
- Provide information and training to stakeholders about the importance of standardised thyroid function assays, and support organisations working on promoting high quality of thyroid function tests.

8.2.26 Harmonisation of Autoimmune Tests (C-HAT)

Membership

Name	Position	Country	Term	Time in Office
J. Sheldon	Chair	UK	1st	2017 03 - 2019 12
X. Bossuyt	Member	BE	1st	2017 03 - 2019 12
M.J. Fritzler	Member	CA	1st	2017 03 - 2019 12
L. Wienholt	Member	AU	1st	2017 03 - 2019 12
M. Rottmann	Member/Roche	DE	1st	2017 03 - 2019 12

Terms of Reference
- To evaluate what are the main causes of variability for a number of diagnostically critical autoantibodies.
- To identify autoantibodies where a common calibrator could reduce the inter-assay variability
- To identify or produce commutable materials that could be used as interim calibration material for autoantibody assays.
- To produce well-characterised pure antibody preparations with known concentration and identity and use these to transfer values to a matrix preparation.
- To evaluate the impact of new reference material on the variability of autoantibody tests and identify areas where further harmonisation would improve diagnostic accuracy.

8.3. SD Working Groups

8.3.35. Standardisation of Haemoglobin A2 (WG-HbA2)

Membership

Name	Position	Country	Term	Time in Office
A. Mosca	Chair	IT		1st
2017 01 - 2019 12				
C. Arsene	Member	DE		
P. Kaiser	Member	DE		
Q. Liu	Member	SG		
R. Paleari	Member	IT		

Terms of Reference

- To promote the standardisation of hemoglobin A2 measurement through the definition of an international reference system, including a reference measurement procedure and primary and secondary reference materials.

Current Projects

- Definition of a reference measurement procedure using mass spectrometry associated with proteolytic degradation.
- Preparation of a secondary reference material for hemoglobin A2 (in cooperation with JRC).

8.3.36. Carbohydrate-Deficient Transferrin (WG-CDT)

Membership

Name	Position	Country	Term	Time in Office
J. Deenmamode	Chair	UK	1st	2018 01 - 2020 12
R.F. Anton	Member	US		
V. Bianchi	Member	IT		
A. Helander	Member	SE		
F. Schellenberg	Member	FR		
J.P.M. Wielders	Member	NL		
C.W. Weykamp	Member	NL		

Terms of Reference

- Promoting the use of the HPLC reference measurement procedure (RMP) as the accuracy base for CDT test standardization
- Maintaining sustainability of an international network of reference laboratories
- Supporting the worldwide standardization of commercial methods against the RMP
- Offering consultation concerning use of biomarkers of alcoholism towards national or international agencies
- Providing scientific support for the production and delivery of authorised CRM
- Supporting the development of guidelines for clinical use of CDT assays

Current Projects

- Promoting the use of the HPLC reference measurement procedure (RMP) as the accuracy base for CDT test standardisation
- Maintaining an international network of reference laboratories
- Supporting the worldwide standardization of commercial methods against the RMP

8.3.39. Standardisation of Albumin Assay in Urine (WG-SAU) in collaboration with NKDEP

Membership

Name	Position	Country	Term	Time in Office
L.M. Bachmann	Chair	US	2nd	2016 01 - 2018 12
A. Beasley Green	Member	US		
D. Bruns	Member	US		
D. Bunk	Member	US		
G. Curhan	Member	US		
J. Eckfeldt	Member	US		
J. Fleming	Member	US		
N. Greenberg	Member	US		

G. Hortin	Member	US
Y. Itoh	Member	JP
G. Jones	Member	AU
J. Lieski	Member	US
M. McQueen	Member	CA
G. Miller	Member	US
G. Myers	Member	US
A. Narva	Member	US
M. Panteghini	Member	IT
K.W. Phinney	Member	US
S. Sandberg	Member	NO
H. Schimmel	Member	BE
D. Seccombe	Member	CA
J. Zakowski	Member	US

Terms of Reference

- To establish a reference procedure and reference materials for the measurement of albumin in urine

Current Projects

- Development of reference materials for urine creatinine and urine albumin
- Development of urine albumin IDMS candidate reference measurement procedures

8.3.40. Standardisation of Pregnancy-Associated Plasma Protein A (WG-PAPP A)

Membership

Name	Position	Country	Term	Time in Office
S. Wittfooth	Chair	FI	2nd	2018 01- 2020 12
C. Sturgeon	Member	UK		
A. Katrukha	Member	RU		
K. Pettersson	Member	FI		
K. Spencer	Member	UK		
S. Jones	Member	UK		

Terms of Reference

- To develop a reference system for standardisation of PAPP-A measurement employed as marker for prenatal screening

Current Projects

- Evaluation of different PAPP-A preparations in relation to the major assay constructs presently being used in routine prenatal testing

8.3.41 Growth Hormone (WG-GH)

Membership

Name	Position	Country	Term	Time in Office
E. Lentjes	Chair	NL	1st	2017 01 - 2019 12
C. Arsene	Member	DE		
C. Sturgeon	Member	UK		
M. Rottmann	Member/Roche	DE		
J.S. Blanchet	Member/Beckman Coulter	FR		
C. Weykamp	Consultant	NL		

Terms of Reference

- To achieve standardisation of growth hormone through secondary reference materials and a reference measurement procedure

Current projects

- Define the analyte/measurand to be measured
- Test the feasibility of serum pools as secondary, commutable reference preparations
- Preparation of secondary reference preparation for GH (3 serum pools)
- Development of an LCMSMS based reference method for GH

8.3.42. Standardisation of Insulin Assays (WG-SIA) in collaboration with ADA/EASD

Membership

Name	Position	Country	Term	Time in Office
A. Saenger	Chair - ADA/EASD	US		
M. Steffes	Co-Chair ADA/EASD	US		
J. Dekker	Member	NL		
D. Holmes	Member	CA		
R. Little	Member	US		
M. McPhaul	Member	US		
G. Miller	Member	US		
D. Sacks	Member	US		
K. Van Uytfanghe	Member	BE		
G. Wark	Member - IFCC	UK		
B. Akolkar	Consultant - NIDDK	US		

Terms of Reference

- To improve the standardisation of assays for insulin by the development of a candidate reference method and materials.

Current Projects

- The development of a reference method for the measurement of insulin by electrospray ionisation-isotope dilution-liquid chromatography-tandem mass spectrometry (ID-LC/tandem MS).
- Establishment of the suitability or otherwise of a lyophilised recombinant human insulin preparation as a primary reference material with appropriate properties
- Establishment of the performance of commercially available insulin assays compared to the ID-LC/tandem MS method using single donation samples and the effect of using a common primary reference material or serum pools on between method agreement.
- Determination of the effect of freeze/thawing on measured insulin (a requirement to establish the validity of materials for 3 above).

8.3.43. Standardisation of Troponin I (WG-TNI)

Membership

Name	Position	Country	Term	Time in Office
R. Christenson	Chair	US	1st	2017 07 - 2019 12
J. Barth	Member	UK		
A. Katrukha	Member	FI		
J. Noble	Member	UK		
M. Panteghini	Member	IT		

H. Schimmel	Member	BE
J. Tate	Member	AU
L. Wang	Member	US

Terms of Reference

- Development of a candidate secondary reference measurement procedure and candidate secondary reference material for cardiac troponin I (cTnI)
- Testing for cTnI standardisation and clinical validation by comparison with validated commercial assays in a round robin study

Current Projects

- Preparation of a secondary reference material for cTnI consisting of three cTnI positive serum pools (Phase 2)
- Validation of cTnI standardisation through a round robin after a value transfer using the secondary reference material as common calibrator (Phase 3)

8.3.48 Parathyroid Hormone (WG- PTH)

Membership

Name	Position	Country	Term	Time in Office
C. Sturgeon	Chair	UK	extra term	2018 01 - 2018 12
C. Burns	Member	UK		
W. Fraser	Member	UK		
R. Singh	Member	US		
J-C. Souberbielle	Member	FR		
S. Sprague	Member	US		
H. Vesper	Member	US		
A. Algeciras	Consultant	US		
L. Demers	Consultant	US		
D. Fogarty	Consultant	UK		

Terms of Reference

- Collaborative educational effort to encourage worldwide implementation of PTH IS 95/646 and to assess the effect of this on between-method agreement.
- Definition of inclusion / exclusion requirements for an appropriate panel of sera and plasma with which to establish reference intervals and establishment of such a panel with support from the clinical community and diagnostics manufacturers
- Development of a reference measurement procedure for PTH(1-84) to a standard that would enable its adoption by the IFCC reference laboratory network.
-

Current Projects

- Raise awareness of shortcomings of current PTH assays with renal physicians and clinical biochemists.
- Prepare good practice recommendations for the optimal pre-analytical handling of patients and samples.
- Confirm results of a harmonisation study that derived assay-specific targets
- Encourage adoption of assay-specific PTH action limits for managing renal patients as an interim measure pending standardisation of PTH methods in terms of a common standard.

8.3.49 CSF-Proteins (WG-CSF)

Membership

Name	Position	Country	Term	Time in Office
J. Gobom	Chair	SE	1st	2018 01 - 2020 12
K. Blennow	Member	SE		
U. Andreasson	Member	SE		
R. Bateman	Member	US		
R. Jenkins	Member	US		
M. Korecka	Member	US		
S. Lehmann	Member	FR		
P. Lewczuk	Member	DE		
M. Lowenthal	Member	US		
G. Martos	Member	FR		
E. Portelius	Member	SE		
L.M. Shaw	Member	US		
E. Stoops	Member	BE		
H. Vanderstichele	Member	BE		
I. Zegers	Member	BE		
H. Zetterberg	Member	SE		

Terms of reference

- To develop a RMP for CSF amyloid β 1-42
- To develop a RMP for CSF amyloid β 1-40
- To develop a RMP for CSF total tau
- To develop CRMs for CSF amyloid β 1-42
- To develop CRMs for CSF amyloid β 1-40
- To develop CRMs for CSF total tau

Current projects and achievements

- Two RMPs for CSF amyloid β 1-42 have been published and approved by the JCTLM (C12RMP1 and C11RMP9)
- A method for measurement of CSF amyloid β 1-40 by SRM has been published and validation of a RMP is ongoing
- Development of a method for measurement of tau by SRM is ongoing
- Three CRMs for CSF amyloid β 1-42 have been developed (ERM®-DA480/IFCC, ERM®-DA481/IFCC and ERM®-DA482/IFCC)
- Collection of CSF for development of CRMs for tau is ongoing

8.3.50 Standardisation of Bone Marker Assays (WG-SBMA) in collaboration with IOF

Membership

Name	Position	Country	Term	Time in Office
E. Cavalier	Chair	BE	1st	2018 01 - 2020 12
C. Cooper	Co Chair - International Osteoporosis Foundation			
S. Vasikaran	Secretary	AU		
C. Biegelmayer	Member	AT		
EF. Eriksen	Member	NO		
A. Griesmacher	Member	AT		
K. Makris	Member	GR		
S. Niemi	Member			
J. Kanis	Member/IOF			

M. Munk	Corp. Rep/IDS
B. Ofenloch Haehnle	Corp. Rep./Roche
S. Silverman	National Bone Health Alliance (NBHA)

Terms of Reference

- To standardise or harmonise (as technically feasible or appropriate at this time) clinical assays available for routine and research use, for the following two bone turnover markers; the serum assay for C-telopeptide fragments of collagen type I a1 chains containing the epitope Glu-Lys-Ala-His-Asp-ß-Gly-Gly-Arg in an isomerised form (also known as serum Crosslaps (CTx)) and the serum assay for N-terminal Propeptide of Type I Procollagen (P1NP).

Current Projects

- Review literature and current status of available assays in order to develop and undertake a project to establish a reference measurement system for serum β-CTx or harmonisation of the assays for serum β-CTx as appropriate.
- Review literature and current status of available assays in order to develop and undertake a project to establish a reference measurement system for serum P1NP or harmonisation of the assays for serum P1NP as appropriate.
- Review and identify data required for the regulatory authorisation of these modified assays.
- Review literature and consider the critical decision limits and potential target levels of serum β-CTx and serum P1NP for treatment of postmenopausal osteoporosis and other causes of osteoporosis as appropriate
- IOF-IFCC study summarises fracture prediction strength of reference bone turnover markers

8.3.51 Commutability (WG-C)

Membership

Name	Position	Country	Term	Time in Office
G. Miller	Chair	US	2nd	2016 01 - 2018 12
H. Althaus	Member	DE		
J. Budd	Member	US		
C. Burns	Member	UK		
A. Caliendo	Member	US		
J. Camara	Member	US		
G. Cattozzo	Member	IT		
F. Ceriotti	Member	IT		
C. Cobbaert	Member	NL		
V. Delatour	Member	FR		
R. Durazo	Member	US		
N. Greenberg	Member	US		
G. Horowitz	Member	US		
P. Kaiser	Member	DE		
A. Kessler	Member	DE		
A. Killeen	Member	US		
P. Lindstedt	Member	SE		
F. MacKenzie	Member	UK		
G. Nilsson	Member	SE		
M. Nuebling	Member	DE		
M. Panteghini	Member	IT		
K. Phinney	Member	US		

R. Rej	Member	US
R. Romeu	Member	FR
S. Sandberg	Member	NO
H. Schimmel	Member	EU
G. Schumann	Member	DE
M. Spannagl	Member	DE
J. Vaks	Member	US
H. Vesper	Member	US
C. Weykamp	Member	NL
I. Zegers	Member	EU

Terms of Reference

- Establish operating procedures for the formal assessment of the commutability of a reference material intended for use as a calibrator, trueness control or EQA sample, taking into account different measurement procedure properties and categories of traceability described in ISO 17511.
- Establish how to define the degree of commutability which is required for a given reference material, taking into account its intended use and the intended use of the measurand. The degree of commutability becomes the criteria used in the assessment process.
- Propose standard terminology to describe the degree of commutability of a reference material, taking into account its intended use.
- Provide guidance to manufacturers and laboratories about what information should be provided by manufacturers in relation to the commutability of reference materials used to establish the calibration traceability of a measurement procedure.
- Advise IFCC Committees and Working Groups on how to assess the commutability of materials on which they are working.
- Develop educational materials regarding commutability for manufacturers, laboratories and users of laboratory results.

Current Projects

- Recommendations for assessing commutability part 1: general experimental design
- Recommendations for assessing commutability part 2: based on the difference in bias between a reference material and clinical samples
- Recommendations for assessing commutability part 3: based on the calibration effectiveness of a reference material
- Recommendations for assessing commutability part 4: validation of a replacement batch of a reference material
- Recommendations for assessing commutability part 5: correction of an assigned value for a reference material for non-commutability with a measurement procedure
- Recommendations for assessing commutability part 6: criteria for making an assessment of commutability of a reference material

8.3.53 Immunosuppressive Drugs (WG-ID)

Membership

Name	Position	Country	Term	Time in Office
C. Seger	Chair	CH	1st	2018 01 - 2020 12
M.J. Barten	Member	DE		
S. Bergan	Member	NO		
M. Brunet	Member	ES		
U. Christians	Member	US		

B. de Winter	Member	NL
L. Elens	Member	BE
D. Grote-Koska	Member	DE
V. Haufroid	Member	BE
A. Henrion	Member	DE
D.W. Holt	Member	UK
P.K. Kunicki	Member	PL
L. Langman	Member	US
S. Masuda	Member	JP
D. Moes	Member	NL
T. Pawiński	Member	PL
L.M. Shaw	Member	US
M. Shipkova	Member	DE
N. Torre Vethe	Member	NO
T. van Gelder	Member	NL
M. Vogeser	Member	DE
P. Wallemacq	Member	BE
E. Wieland	Member	DE

Terms of Reference

- The WG is devoted to the establishment of candidate reference procedures and reference materials for immunosuppressive drugs (ISDs) as cyclosporine, sirolimus, tacrolimus, everolimus, and mycophenolic acid (MPA). Demonstration of the current state of the art in ISD – TDM by measurement comparison will define the need for harmonization or – if feasible – standardisation of measurement services

Current Projects

- Regulatory framework:
  - Establish and communicate the regulatory framework which allows submitting to the JCTLM reference materials, measurement methods and measurement services established within the WG-ID.
- Measurement comparison initiative aimed to assess the state of art in ISD TDM:
  - Baseline assessment including method comparability.
- Influence of secondary reference materials on method comparability.
- Production of reference materials to be listed in the JCTLM database:
  - Characterisation of primary reference materials.
  - Production of primary reference materials.
  - Characterisation and production of secondary reference materials.
- Establishment of reference methods to be listed in the JCTLM database:
  - Design and validation of a candidate reference method by at least two to three partner institutions.
- Establishing reference procedures:
  - Establishment of a reference laboratory network.
  - Establishment of a reference measurement service network.

8.3.54 Apolipoproteins by Mass Spectrometry (WG-APO MS)

Membership

Name	Position	Country	Term	Time in Office
C. Cobbaert	Chair	NL	1st	2017 01 - 2019 12
U. Ceglarek	Member	DE		
V. Delatour	Member	FR		

J. Dittrich	Member	DE
C. Hirtz	Member	FR
A. Hoofnagle	Member	US
Z. Kuklenyik	Member	US
L.R. Ruhaak	Member	NL
H.W. Vesper	Member	US
H. Althaus	IVD Siemens	DE
U. Prinzing	IVD Roche	DE
G.M. Kostner	Consultant	AT
H. Schimmel	Consultant	BE
I. Zegers	Consultant	BE

Terms of Reference

- To achieve standardisation of a panel of clinically relevant serum apolipoproteins (apo) A-I, B, C-I, C-II , C-III, E and apo (a) (including qualitative phenotyping where needed). Standardisation is done in such a way that measurement results are traceable to SI as outlined in ISO 17511. Other traceability chains will be used in cases where traceability to SI cannot be achieved.
- To evaluate clinical performance and clinical utility of serum apolipoprotein panel(s) for CVD risk stratification and treatment, in comparison to or together with contemporary blood lipids.

Current projects

- Define the analytes / measurands intended to be measured.
- Development of primary and secondary reference materials, including evaluation of commutability.
- Development of an LC-MS/MS-based reference method for the above-mentioned analytes that are unaffected by genetic variants, post-translational modifications and other factors. The reference method will meet relevant ISO standards (i.e., ISO 15195).
- Evaluation of the analytical performance of the LC-MS/MS reference method.
- Assessment of the performance of commercially available apolipoprotein assays compared to the reference method using commutable reference materials as well as single donation samples.
- Any reference materials and reference measurement procedures developed will be submitted to JCTLM for review and listing on the JCTLM database.

Future Projects

- Evaluation of clinical performance and clinical utility of the multiplexed apolipoprotein test according to the Test Evaluation framework developed by the EFLM working group on Test Evaluation (Horvath AR et al., CCA, 2014).

8.3.55 Pancreatic Enzymes (WG-PE)

Membership

Name	Position	Country	Term	Time in Office
D. Grote-Koska	Chair	DE	1st	2017 01 - 2019 12
F. Ceriotti	Member	IT		
J. Gella	Member	ES		
S. Pal	Member	IN		
R. Rej	Member	US		
S. Ueda	Member	JP		

Terms of Reference

- To develop a primary reference method for pancreatic Lipase in Serum
- To develop a primary reference method for pancreatic Amylase in Serum
- To support EC-JRC (Joint Research Centre, Directorate F – Health, Consumers and Reference Materials, formerly IRMM) in case of studies and certification of reference materials for enzymes

Current Projects

- Development of a Pancreatic-Amylase method to obtain a practical version to act as reference method

8.3.56 Fecal Immunochemical Testing (WG-FIT)

Membership

Name	Position	Country	Term	Time in Office
S. Benton	Chair	UK	1st	2017 01 - 2019 12
J.M. Auge	Member	ES		
H.M. Chiu	Member	TW		
N. Djedovic	Member	UK		
M. Frasa	Member	NL		
S. Jones	Member	UK		
P. Kocna	Member	CZ		
B. Levy	Member	US		
J. Strachan	Member	UK		
E. Symonds	Member	AU		
S. Takehara	Member	JP		
I. Zegers	Member	BE		
Y. Doi	Corp. Member	JP		
M. Fujimura	Corp. Member	JP		
T. Fukuda	Corp. Member	JP		
M. Gramegna	Corp. Member	IT		
H. Hayashi	Corp. Member	JP		
T. Ichiyanagi	Corp. Member	JP		
T. Kosaka	Corp. Member	JP		
Y. Masuda	Corp. Member	JP		
M. Zackerl	Corp. Member	DE		

Terms of Reference

- To harmonise and/or standardise analysis of haemoglobin in faecal samples by immunochemistry (FIT)
- To standardise the pre-analytical phase
- To establish EQA and 3rd party IQC programmes
- To determine impact of assay interference of Hb variants and other factors
- To determine the feasibility of developing reference materials and/or commutable calibrators

Current Projects

- Identification of a suitable reference material and assessment of commutability for all available laboratory quantitative FIT methods
- Review of all FIT EQA programmes currently available globally
-

8.3.57 Cell free DNA and related circulating biomarkers (WG-cfDNA)

Membership

Name	Position	Country	Term	Time in Office
R. van Schaik	Chair	NL	1st	2018 01 - 2020 12
M. del Re	Member	IT		
S. Galbiati	Member	IT		
E. Lianidou	Member	GR		
D. Lo	Member	HK		
M. Oellerich	Member	DE		

Terms of Reference

To identify and provide guidance on preanalytical and analytical aspects for obtaining good and reproducible results for cfDNA and related circulating biomarkers for clinical use, and to guide the correct clinical implementation of these biomarkers.

Current Projects

a) Defining pre-analytical aspects / drafting guideline
b) Defining minimal analytical performance
c) Setting up proficiency testing for cfDNA
e) Organizing international workshops
f) Defining grant proposals to address unmet needs under a) and b)

8.3.58 Standardisation of Procalcitonin Assays (WG-PCT)

Membership

Name	Position	Country	Term	Time in Office
V. Delatour	Chair	FR	1st	2018 01 - 2020 12
A. Boeuf	Member	FR		
P. Hausfater	Member	FR		
Q. Liu	Member	SG		
J. Pfannkuche	Member	DE		
P. Schütz	Member	CH		
C. Tourneur	Member	FR		
C. Yuan	Member	US		
J. Odarjuk	Member/Thermo Fisher	DE		
M. Rottmann	Member/Roche	DE		
S. Ruetten	Member/Abbott	US		
A. Rybin	Member/Siemens	US		
L. Seaver	Member/Abbott	US		

Terms of Reference

- Develop and validate a reference measurement procedure for PCT absolute quantification by Stable Isotope Dilution Mass Spectrometry
- Document and understand the variability of results provided by the different commercially available PCT assays
- Evaluate the need for standardization of PCT assays
- Evaluate the feasibility for standardization of PCT assays
- Perform standardization of PCT assays, if needed and feasible

Current Projects

- Production of commutable EQA materials designed to assess comparability of commercially available PCT assays

- Production and characterization of candidate primary calibrators
- Development of a candidate reference method for absolute quantification of PCT by IDMS

8.3.59 Vitamin D Standardization Program (WG-Vit D)

Membership

Name	Position	Country	Term	Time in Office
C. Sempos	Chair	US	1st	2018 01 - 2020 12
N. Binkley	Member	US		
J. Camara	Member	US		
É. Cavalier	Member	BE		
V. Chen	Member	CN		
S. Durham	Member	US		
R. Durazo	Member	US		
G. El-Hajj Fuleihan	Member	LB		
A. Ghoshal	Member	US		
N. Heureux	Member	BE		
B. Holmquist	Member	US		
A. Hoofnagle	Member	US		
D. Markowski	Member	US		
G. Myers	Member	US		
C. Munns	Member	AU		
D. O'Dell	Member	US		
K. Phinney	Member	US		
P. Sibley	Member	UK		
L. Tian	Member	US		
P. Twomey	Member	IE		
H. Vesper	Member	US		
S. Wise	Member	US		

Terms of Reference

Re-evaluate current Vitamin D Standardization Program (VDSP) performance guidelines for serum total 25-hydroxyvitamin D measurement, i.e. Total CV ≤ 10% and Mean Bias ≤ 5% (Clin Chem Acta 2009; 408:8-13).
Establish VDSP performance guidelines for 3-epi-25-hydroxyvitamin D and 24,25-dihydroxyvitamin D3.

Current Projects

To be defined

8.4. Publications

A complete list of IFCC publications is available on the IFCC web site at:
http://www.ifcc.org/ifcc-scientific-division/sd-yearly-publications-of-interest/

8.5. List of Addresses

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Chapter 9
Education and Management Division

9.1. Education and Management Division Executive Committee
9.1.1. Mission Statement
9.1.2. Strategy
9.1.3. Projects
9.1.4. Terms of Reference

9.2. Education and Management Division Committees
9.2.4. Clinical Molecular Biology Curriculum (C-CMBC)
9.2.5. Analytical Quality (C-AQ)
9.2.7. Evidence Based Laboratory Medicine (C-EBLM)
9.2.9. Clinical Laboratory Management (C-CLM)
9.2.10. Internet and Distance Learning (C-IDL)
9.2.11. Education in the Use of Biomarkers in Diabetes (C-EUBD)
9.2.12. Cardiac Biomarkers (C-CB)
9.2.13. Chronic Kidney Disease (C-CKD)
9.2.14. Point of Care Testing (C-POCT)
9.2.15. Proficiency Testing (C-PT)
9.2.16. Value Proposition for Laboratory Medicine (C-VPLM)

9.3. Education and Management Division Working Groups
9.3.8. Laboratory Errors and Patient Safety (WG-LEPS)
9.3.10 Harmonisation of Interpretive Comments EQA (WG-ICQA)
9.3.11 Personal Support (WG-PS)

9.4. Education and Management Division Special Projects
9.4.1. Visiting Lecturer Programme (VLP)
9.4.2. Flow Cytometry (WG-FC)
9.4.3. Developing Quality Competence in Medical Laboratories (DQCML)

List of Addresses

THE EDUCATION AND MANAGEMENT DIVISION EXECUTIVE COMMITTEE (EMD-EC)

Chair:
Prof. Leslie LAI (MY)

Members:
Prof. Ana-Leticia MASELLI (GT)
Prof. Nader RIFAI (US)
To be nominated

Corporate Representative and Secretary:
Dr. André ZIEGLER (CH)

CHAIRS OF EDUCATION AND MANAGEMENT DIVISION COMMITTEES AND WORKING GROUPS

9.1. Executive Committee — **L. Lai (MY)**

9.2. Committees

9.2.4. Clinical Molecular Biology Curriculum (C-CMBC)	E. Lianidou (GR)
9.2.5. Analytical Quality (C-AQ)	A. Thomas (UK)
9.2.7. Evidence Based Laboratory Medicine (C-EBLM)	A. Zemlin (ZA)
9.2.9. Clinical Laboratory Management (C-CLM)	S. Yenice (TR)
9.2.10. Internet and Distance Learning (C-IDL)	L. Langman (US)
9.2.11. Education in the Use of Biomarkers in Diabetes (C-EUBD)	G. John (UK)
9.2.12. Cardiac Biomarkers (C-CB)	F. Apple (US)
9.2.13. Chronic Kidney Disease (C-CKD)	F. Alcantara (BR)
9.2.14. Point of Care Testing (C-POCT)	R. Tirimacco (AU)
9.2.15. Proficiency Testing (C-PT)	A. Haliassos (GR)
9.2.16. Value Proposition for Laboratory Medicine (C-VPLM)	A. St. John (AU)

9.3. Working Groups

9.3.8. Laboratory Errors and Patient Safety (WG-LEPS)	L. Sciacovelli (IT)
9.3.10 Harmonisation of Interpretive Comments EQA (WG-ICQA)	S. Vasikaran (AU)
9.3.11 Personal Support	G. Beastall (UK)

9.4. Special Projects

9.4.1. Visiting Lecturer Programme (VLP)	N. Rifai (US)
9.4.2. Flow Cytometry (WG-FC)	U. Sack (DE)
9.4.3. Developing Quality Competence in Medical Laboratories (DQCML)	E. Amann (DE)

9. The Education and Management Division (EMD)

The Education and Management Division (EMD) fosters educational activities and managerial skills. The Divisional activities are currently conducted by Committees, Working Groups and Special Projects.

9.1. EMD Executive Committee

The EMD Executive Committee is the management group responsible for directing and coordinating the activities of the EMD working units.

Membership

Name	Position	Country	Term	Time in Office
L. Lai	Chair	MY	2nd	2018 01 - 2020 12
A.L. Maselli	Member	GT	2nd	2017 01 - 2019 12
N. Rifai	Member	US	1st	2018 01 - 2020 12
A. Ziegler	Corp. Rep. and Secretary	CH	1st	2018 01 - 2020 12
To be nominated	*Member*			

9.1.1. Mission Statement

EMD will provide IFCC members and the healthcare community with education relevant to Clinical Chemistry and Laboratory Medicine, directed at scientific, management and clinical issues.

9.1.2. Strategy

To accomplish this mission EMD will:

- Guide laboratory professionals to function optimally, in a changing environment, so that they might best serve the healthcare needs of society.
- Strengthen consultation and collaboration among all groups responsible for the planning and delivery of healthcare.
- Identify areas of relevance to Clinical Chemistry and Laboratory Medicine, and will assist in the transfer of knowledge in these areas to the profession.
- Participate actively in programs of IFCC Congresses and Scientific Meetings
- Produce and ensure the quality of IFCC educational documents.
- Respond to the needs of IFCC Members in education and management skills as well as those of the Corporate Members and external agencies.
- Design, develop and implement diagnostic strategies.
- Identify current problems in education and management practices and provide solutions and guidelines to overcome them.

EMD will implement this strategy by:

- Facilitating the provision of critically evaluated information by means of projects, expert visits, courses, lectures and documents including electronic learning tools.
- Covering topics such as educational principles and methods, quality management, utilisation and cost-effectiveness of laboratory measurements and observations.
- Reaching its target audience which includes IFCC Members (National Societies, Corporate Members and Affiliate Members), other healthcare workers, students, healthcare agencies and governments, the diagnostic industry and the general public.

9.1.3. Projects

- Visiting Lecturer Programme
- Clinical molecular biology courses
- Expanding knowledge in evidence based laboratory medicine
- Managing the quality of laboratory services, including analytical quality
- Courses and workshops in specialised areas
- Promoting laboratory accreditation
- Raising awareness of quality issues
- Promoting distance learning
- Providing personal support to specialists in developing countries

9.1.4. Terms of Reference

The functions of the EMD Executive Committee include:

- Initiates, manages and coordinates EMD projects.
- Ensures committees and working groups are functioning under clear terms of reference and an agreed schedule of activity.
- Ensures progress on each project, monitoring of activities, and resolutions of conflicts.
- Reviews educational and managerial problems in current practice and initiate projects as appropriate.
- Seeks funding to achieve the completion of selected projects.
- Communicates and interfaces with Executive Board, Divisions and Committee Chairs of IFCC.

9.2. EMD Committees

9.2.4. Clinical Molecular Biology Curriculum (C-CMBC)

Membership

Name	Position	Country	Term	Time in Office
E. Lianidou	Chair	GR	2nd	2017 01 - 2019 12
E. Capoluongo	Member	IT	1st	2017 01 - 2019 12
V. Haselmann	Member	DE	2nd	2017 01 - 2019 12
A. Ferreira Gonzalez	Consultant	US		

Terms of Reference

The objective of the C-CMBC is to develop curriculum and hold training courses in molecular biology techniques. In addition, C-CMBC will develop techniques for teaching clinical molecular biology in laboratory medicine and courses in teaching clinical molecular biology.

Projects

- Clinical molecular biology courses
- Symposia at international congresses
- Liaison with other special international groups
- Molecular biology courses at regional meetings

9.2.5. Analytical Quality (C-AQ)

Membership

Name	Position	Country	Term	Time in Office
A. Thomas	Chair	UK	2nd	2017 01 - 2019 12
D. Grenache	Member	US	2nd	2016 01 - 2018 12
A. Haliassos	Member	GR	2nd	2017 01 - 2019 12
Q. Meng	Member	CA	1st	2016 04 - 2018 12
L. Khorovskaya	Member	RU	1st	2017 01 - 2019 12

Terms of Reference

- To provide education and training on the various aspects of analytical quality in the clinical laboratory which include:
  - methods and instrument validation
  - traceability concepts
  - measurement uncertainty
  - internal quality control procedures
  - external quality assessment programmes
  - pre and post-analytical variables
- To address the educational and training needs of emerging nations on analytical quality
- Education and training will be provided in many ways including:
  - written material
  - electronic teaching
  - workshops and seminars
  - invited lectures
  - consultations
- To collaborate with other IFCC committees or working groups to achieve these aims projects:
  - Maintain a directory of global EQA providers.
  - To identify, evaluate and maintain educational resource library on Analytical Quality.
  - To organize and deliver workshops on Analytical Quality
  - To produce monographs on Quality to address the needs of developing countries.

9.2.7. Evidence Based Laboratory Medicine (C-EBLM)

Membership

Name	Position	Country	Term	Time in Office
A. Zemlin	Chair	ZA	1st	2018 1 - 2020 12
A.Don Wauchope	Member	CA	1st	2018 1 - 2020 12
J. Wils	Member	FR	2st	2018 1 - 2020 12
K. Rodriguez Capote	Member	CA	2nd	2017 1 - 2019 12
N.Giménez Gomez	Member	ES	1st	2017 1 - 2019 12
C. Florkowski	Comsultant	NZ		

Terms of Reference / Mission

To promote the methodology and practice of evidence-based medicine in the laboratory profession.

Aims and Objectives

The aims and objectives of the Committee on Evidence-based Laboratory Medicine are to:

- Promote the understanding and the methodology of EBLM by educating laboratory professionals about:
  - How to find the evidence
  - How to appraise the evidence
  - How to act on evidence
- Support rational laboratory use by implementation of results from EBLM into daily practice. This can be achieved by methodological research, international surveys and by educating laboratory professionals in the following topics:
  - How to perform primary diagnostic studies
  - How to carry out systematic reviews in laboratory medicine
  - How to make evidence-based guideline recommendations in laboratory medicine
  - How to implement evidence-based diagnostic guidelines in clinical practice
- Promote the international dissemination of and collaboration in EBLM

Projects

Workshops and training in Evidence Based Laboratory Medicine
Collaborative projects on the methodology and application of systematic reviews
Research in evidence-based guideline development and implementation
Promoting STARD (STAndards for Reporting of Diagnostic accuracy)
Monitoring and updating of a systematic reviews data base in laboratory medicine

9.2.9. Clinical Laboratory Management (C-CLM)

Membership

Name	Position	Country	Term	Time in Office
S. Yenice	Chair	TR	2nd	2017 1 - 2019 12
M. Orth	Member	DE	2nd	2018 1 - 2020 12
E. Randell	Member	CA	1st	2016 4 - 2018 12
A.A. Khine Wamono	Member	ZA	1st	2016 4 - 2018 12
P. Sharma	Member	IN	1st	2017 3 - 2019 12

Terms of Reference

The committee's mandate is to produce monographs and/or guides on basic clinical laboratory management, quality requirements recognized in major quality management guidelines and to offer training modules, seminars, workshops and expertise to laboratory professionals whose purpose is to define organisational structure and carry out crucial activities necessary to achieve quality in routine clinical laboratory services. The committee aims to produce standardised workshop material for basic and advanced management courses and also focuses on addressing the challenges and needs of clinical laboratories in developing countries who have the aim to continually improve towards ensuring patient safety and/or to meet accreditation standards.

The primary goals of the C-CLM are:
- to provide education and training on good laboratory practice and structuring laboratory management in compliance with the globally recognised framework of quality system essentials;
- to help set standards/guidelines/requirements for implementing quality management that impact day-to-day work in the clinical or medical laboratories and, finds solutions to conformity assessment issues in fulfilling their regulatory requirements;
- to promote good leadership and management practices in clinical laboratories and to assist with the development of these skills among clinical laboratory professionals;

- to produce monographs and/or guides for those embarking on executing a quality management system and seeking accreditation.
-

Planned Activities

The C-CLM purpose will be accomplished through activities in the following key areas:

- Promoting development of strong leadership and good management skills among laboratory professionals.
- Pursuing a laboratory leadership training programme.
- Producing educational materials on leadership, project management, and basic quality improvement methods.
- Providing presentations related to the topics on clinical laboratory management through the IFCC e-Academy.
- Conducting surveys to determine needs and demands.
- Collaborating with other EMD committees and working groups and closely co-operating with the Visiting Lecturer Program.
- Communicating with corresponding members for assistance with piloting questions to be associated with various learning tools and distributing survey questions toward research questions.

9.2.10 Internet and Distance Learning (C-IDL)

Membership

Name	Position	Country	Term	Time in Office
L. Langman	EMD Co-Chair	US	1st	2018 01 - 2020 12
E. Freggiaro	CPD Co-Chair	AR	1st	2018 01 - 2020 12
R. Shrestha	Member	NP	1st	2017 05 - 2019 12
J. Grant	Web Editor	AU	2nd	2017 01 - 2019 12
H.Sakamoto	Member	JP	1st	2018 02 - 2020 12
K. Sztefko	Member	PL	1st	2018 02 - 2020 12
R. Greaves	Consultant	AU		
J. Smith	Consultant	UK		

The CPD Co-Chair of this committee is the IFCC Publications & Distance Learning coordinator and is a member of the CPD Executive Committee.

Terms of reference

The purpose of this committee is:

- To maintain the IFCC curriculum on which the e-Academy is based, and in line with the IFCC strategy for distance learning,
- To create and promote web-based e-learning and educational activities. to satisfy the content requirements of the IFCC curriculum and National Societies' needs.
- To solicit suggestions from National Societies, IFCC Committees, Task Forces and Working Groups to identify distance learning topic areas of value to IFCC;
  - The committee promotes a multidisciplinary approach to patient care by obtaining educational material, making it available on the web site and by providing links to other relevant resources.
- To identify and evaluate existing distance learning programmes in relevant areas and, with permission and collaboration, modify these as necessary to fit IFCC requirements;
- To develop new distance learning programmes where none already exist.
- To explore and apply new educational technologies that could be helpful for IFCC distance learning

9.2.11 Education Use of Biomarkers in Diabetes (C-EUBD)

Membership

Name	Position	Country	Term	Time in Office
G. John	Chair	UK	1st	2016 01 – 2018 12
E. English	Member	UK	1st	2016 01 – 2018 12
R. Erasmus	Member	ZA	1st	2016 01 – 2018 12
D. Sacks	Member	US	1st	2016 01 – 2018 12
C. Weycamp	Member	NL	1st	2016 01 – 2018 12

Terms of Reference

- To maintain and further develop the network of reference laboratories for the measurement of HbA1c (through collaboration with C-TLM)
- To work in partnership with WHO and IDF to continue to promote the reporting of HbA1c in line with the consensus statement
- To work in partnership with WHO and IDF to facilitate the development and implementation of international guidelines for the use of HbA1c in the diagnosis of diabetes
- To work with IFCC Corporate Members to develop a consensus position on the information to be included in the Instructions for Use (IFU) as it relates to the clinical use of HbA1c methods
- To develop quality targets for the measurement of HbA1c and other biomarkers, and on the basis of these targets, and in conjunction with professional bodies, advise on the use of biomarkers for monitoring, diagnosis and screening of diabetes and glucose intolerance.
- To work with WHO and TF-POCT to recommend best practice in the use of POCT methods for the measurement of HbA1c
- To evaluate the clinical value of emerging biomarkers (e.g. glycated albumin) for the management of patients with diabetes and to establish whether there is a case for method harmonisation of effective new biomarkers
- To evaluate the emerging importance of post translational modification derived products (PTMDPs), and especially Advanced Glycation End-Products (AGEs), and work with Professional bodies on the best way of developing these for use in diabetes.
- To monitor the literature and advise on best practice in relation to laboratory aspects of diabetes

9.2.12 Cardiac Biomarkers (C-CB)

Membership

Name	Position	Country	Term	Time in Office
F. Apple	Chair	US	1st	2017 01 - 2019 12
P. Kavsak	Member	CA	1st	2017 01 - 2019 12
G. Lefevre	Member	FR	1st	2017 01 - 2019 12
K. Pulkki	Member	FI	1st	2017 01 - 2019 12
A. Saenger	Member	US	1st	2017 01 - 2019 12
R. Body	Member	UK	1st	2017 01 - 2019 12
SPC. Lam	Member	SG	1st	2017 01 - 2019 12
T. Omland	Member	NO	1st	2017 01 - 2019 12
P. Collinson	Consultant	UK		
A. Jaffe	Consultant	US		
J. Ordonez-Llanos	Consultant	ES		

Terms of Reference

- Education: bridging the gap between laboratory medicine and clinical practice for established and novel cardiac biomarkers
- Clinical laboratory / analytical issues pertaining to cardiac biomarker assays: defining normality, i.e. 99th percentile upper reference limits, delta values, biological variation, interferences, statistical models, quality specifications of assays
- Clinical utilisation of cardiac biomarkers: defining myocardial injury, diagnostics (early rule out/rule in of disease) risk outcomes assessments, guiding therapy
- Collaboration with industry, regulatory agencies, and clinical societies

Current Projects

- Education, education, education
- Development of educational materials for a) high-sensitivity, contemporary and point of care cardiac troponin and b) natriuretic peptide assays used in clinical practice.
- Development of publishable laboratory medicine, interdisciplinary, expert opinion materials and present global workshops in collaboration with industry and clinical societies
- Yearly updating of cardiac troponin and natriuretic peptide assay tables by both manufacturer claims and from peer-reviewed literature
- Continuation of distribution of educational posters and mouse-pads, as well as pocket-cards, addressing high sensitivity cardiac troponin and natriuretic peptide assays at IFCC (laboratory medicine) and clinical society meetings
- Development of a searchable 'APP' that will the educational tool for cardiac biomarker assays used in clinical practice
- Development of a study model to define a 'clinical scorecard' for high sensitivity cardiac troponin assays

9.2.13 Chronic Kidney Disease (C-CKD)

Membership

Name	Position	Country	Term	Time in Office
F. Alcantara	Chair	BR	1st	2016 02 - 2018 12
P. Datta	Member	US	1st	2017 05 - 2019 12
A. Grubb	Member	SE	1st	2017 05 - 2019 12
M. Mussap	Member	IT	1st	2017 05 - 2019 12
V. Radišić Biljak	Member	HR	1st	2017 05 - 2019 12
T. Wada	Member	JP	1st	2017 05 - 2019 12
J. H. Eckfeldt	WASPaLM Nominee	US		

Aim

To promote, support and co-ordinate international activities related to laboratory testing in Chronic Kidney Disease (CKD).

Objectives

- Obtain information on the current state of co-ordinated national and international activity in the area of pathology testing in CKD.
- Assess current best practice in CKD-related testing.
- Assess best practice for implementation of best practice for CKD-related testing.
- Provide assistance where required for member organisations and others in planning and implementing CKD testing policies and guidelines.
- Identify other relevant areas of laboratory related issues in CKD.

Delivery

- A report on the current status of guidelines on CKD pathology testing.
- A review of the items covered in CKD pathology testing guidelines.
- A review of best practice processes for implementing change in CKD-related pathology testing.
- An assessment of areas of likely relevant future activity in CKD testing.

9.2.14 Point of Care Testing (C-POCT)

Membership

Name	Position	Country	Term	Time in Office
R. Tirimacco	Chair	AU	extra	2018 01 - 2018 12
M. Vaubourdolle	Member	FR	1st	2017 01 - 2019 12
A.I. Khan	Member	CA	extra	2018 01 - 2018 12
J. Shaw	Member	CA	1st	2018 05 - 2020 12
E. Jacobs	Corp. Rep./Abbott	US	1st	2018 05 - 2020 12
M. Schwertfeger	Corp. Rep./Roche	CH	1st	2017 04 - 2019 12

Terms of Reference

- To promote quality in the use, performance, interpretation and reporting of POCT across the full spectrum of clinical chemistry and laboratory medicine
- To create a forum for high level discussion on a wide range of POCT related topics
- To provide international leadership for developing the clinical practice of POCT in Laboratory Medicine.

Objectives

- Creation of a communication network for specialists who are expert in POCT. To include other POCT specialist groups; expert individuals in IFCC Full, Affiliate and Corporate Members; regulatory agencies and users of POCT
- Definition, implementation, evaluation and reporting of a range of defined POCT projects. To include projects that address quality in POCT performance, the appropriate clinical use of POCT, connectivity and the cost effectiveness of POCT. Projects should complement rather than duplicate projects being undertaken by other POCT specialists
- Preparation of educational support material for those using or considering the use of POCT
- Creation of a library of publications that document the clinical effectiveness of POCT and the impact on clinical outcomes. To include clinical chemistry, haematology, microbiology and other disciplines of laboratory medicine, as appropriate

C-POCT Working Group on "How should Glucose Meters be Evaluated for Critical Care - (WG-GMECC)"

Membership

Name	Position	Country	Term	Time in Office
C. Bowman	Chair	US	2nd	2016 01 - 2018 12
E. Bigot-Corbel	Member	FR		
S. Cunningham	Member	IE		
E. Guillen Barua	Member	PY		
P. Luppa	Member	DE		
T. Malati	Member	IN		
D. Sacks	Member	US		

R. Slingerland	Member	NL
B. Solnica	Member	PL
P. St.Louis	Member	CA
F. Vanstapel	Member	BE
R. White	Member	AU
M. Mulder	Corp. Rep./Roche	DE
E. Ntrivalas	Corp. Rep./Nova	UK
D. Bruns	Consultant	
B. Clarke	Consultant	
B. Karon	Consultant	
D. Mesotten	Consultant	
J. Nichols	Consultant	
M. Scott	Consultant	

Terms of Reference

1. To evaluate the clinical practice of using blood glucose meters for critically ill patients.
2. To determine the requirements a glucose meter need to full fill in order to be used for critically ill patients
3. To propose what internal- and external quality control systems that should be present.
4. To evaluate which, if any, of the present instruments in the market fulfil these criteria.
5. To provide recommendations for training and competency of users in critical care areas.
6. To ensure recommendations align with other stakeholders.

9.2.15 Proficiency Testing (C-PT)

Membership

Name	Position	Country	Term	Time in Office
A. Haliassos	Chair	GR	2nd	2017 01 - 2019 12
B. Aslan	Member	CA	2nd	2017 01 - 2019 12
A. Carobene	Member	IT	2nd	2017 01 - 2019 12
A. Perret-Liaudet	Member	FR	2nd	2017 01 - 2019 12
C. Weykamp	Member	NL	2nd	2017 01 - 2019 12
J. Dai	Corp. Rep./Siemens	US	2nd	2017 01 - 2019 12
M. Rottmann	Corp. Rep./Roche	DE	2nd	2017 01 - 2019 12

Terms of Reference:

- Facilitate the introduction of international proficiency testing schemes for uncommon but clinically important measurands.
- Use the information to select measurands that may be suitable for method harmonization as a means of improving patient outcomes.

Objectives:

- Create an online database - web application liaising measurands (analytes) with EQA-PT schemes through the world.
- Establish a small group of clinical and scientific experts who represent both suppliers and users of 'uncommon but clinically important' laboratory medicine methods.
- Agree to a definition of an 'uncommon but clinically important' measurand and the body of evidence that is required to meet that definition.
- Survey IFCC Members and IFCC functional units to receive suggestions for 'uncommon but clinically important' measurands.
- Prioritize the suggestions received and assess the potential for international

proficiency testing and the likely support of manufacturers of available methods.
- Establish the availability of proficiency testing schemes for the identified measurands. Where proficiency testing schemes exist, assess their potential for expansion at an international level.
- Invite bids to provide measurand specific proficiency testing in accordance with the agreed specification in the absence of suitable proficiency testing schemes.
- Recommend, to the Executive Board, proficiency testing schemes that may be set up under the auspices of IFCC.
- Monitor performance in IFCC supported proficiency testing schemes and support the preparation of scientific publications at appropriate points in time.
- Use performance data from IFCC supported proficiency testing schemes to propose measurands for harmonization in line with www.harmonization.net.

Cooperation:

1. The Committee will closely cooperate with the IFCC Committee for Analytical Quality (C-AQ)
2. The Committee will closely cooperate with the IFCC Committee Traceability in Laboratory Medicine (C-TLM)
3. The Committee will closely cooperate with the IFCC Committee Nomenclature, Properties and Units (C-NPU)
4. The Committee will liaise with EQALM and the other relevant international providers of proficiency testing in laboratory medicine

9.2.16. Value Proposition for Laboratory Medicine (C-VPLM)

Membership

Name	Position	Country	Term	Time in Office
A.St. John	Chair	AU	1st	2018 1 – 2020 12
R.Christenson	Member	US	1st	2018 3 – 2020 12
M.O'Kane	Member	UK	1st	2018 3 – 2020 12
P.Juelicher	Member	DE	1st	2018 3 – 2020 12
F.Curcio	WASPaLM Rep.	IT		
M.Oellerich	WASPaLM Rep.	DE		
I.Parwati	WASPaLM Rep.	ID		
N.Massakazu Sumita	WASPaLM Rep.	BR		
R.Verna	WASPaLM Rep.	IT		
C. Price	Consultant	UK		

Terms of Reference and Current Projects

- To advocate adoption of the value proposition in laboratory medicine/healthcare.
  - Continuing work in the form of peer-reviewed publications, congress symposia and presentations to local meetings is required to describe and define the value proposition in laboratory medicine and to advocate its widespread adoption. During the first 3 years of this committee it is intended that this work would be restricted to laboratory medicine professionals albeit with interaction with appropriate clinical specialists relevant to the particular tests As the group expands the body of knowledge on the value proposition in firstly laboratory medicine and then in other healthcare disciplines then this work can be extended.
- To develop a compendium of tools for laboratory medicine specialists to establish the value for individual medical tests within individual health care systems.
  - Case studies will be undertaken for specific medical tests according to the principles of the value proposition in specific healthcare systems. There is a need to develop

the principles for the preparation of such case studies for publication in the current peer-reviewed journals in order that they reach the appropriate audience. This work has been commenced and will continue for 3 years. It will include test laboratories applying the value proposition framework to a particular medical test and assessing the outcomes. At the end of this period it is proposed that a compendium of tools generalisable for the preparation of documents demonstrating the value proposition for any medical test will be described in a major review publication.

9.3. EMD Working Groups

9.3.8. Laboratory Errors and Patient Safety (WG-LEPS)

Membership

Name	Position	Country	Term	Time in Office
L. Sciacovelli	Chair	IT	2nd	2017 1 – 2019 12
M. Plebani	Past Chair	IT		
K. Furtado Veira	Member	BR		
I. Garcia del Pino Castro	Member	ES		
A. Ivanov	Member	EE		
G. Lippi	Member	IT		
Z. Sumarac	Member	SRB		
J. West	Member	UK		

Mission

The WG mission is to stimulate studies on the topic or errors in laboratory medicine, to collect available data on this topic and to recommend strategies and procedures to improve patient safety.

Terms of Reference

- To focus on addressing errors in laboratory medicine.
- To improve the safety of laboratory testing.
- To improve the knowledge in the field at an international level.
- To recommend the development and application of standardised operating protocols.

Current Projects

- Improve awareness of laboratory professionals regarding the topic of errors and patient safety.
- Implement pilot studies to evaluate laboratory errors frequency and types.
- Implement projects for error reduction through the design of safer procedures and processes.
- Cooperate with other scientific organizations (WHO, AACC, ASCP, etc.) for assuring improvements in the field of patient safety.
- Organise meetings and scientific sessions on the topic of laboratory errors and patient safety.
- Support the publications of papers on the topic of laboratory errors and patient safety in scientific journals and monographs.
- Harmonise the Quality Indicators management in Laboratory Medicine through the use of the same list of Quality Indicators in clinical laboratories all over the world, a uniform method for data collection and a centralized data elaboration. The final goal is to comply with requirements of International Standard ISO 15189:2012, contribute to identify a reliable state-of-the-art about the error rate for all phases of Total Testing Process (TTP), identify performance specifications for each quality indicator, stimulate

the decreasing of error rates and improve the patient safety in laboratory testing.
- Selection and appointment of a National Leader to coordinate and encourage the use of Quality Indicators in his/her Country and co-operate with members of the WG-LEPS providing valuable suggestions for improving the project.

9.3.10 Harmonisation of Interpretive Comments External Quality Assessment (WG-ICQA)

Membership

Name	Position	Country	Term	Time in Office
S. Vasikaran	Chair	AU	2nd	2018 01 - 2020 12
M.Plebani	Member	IT		
E. Kilpatrick	Member	UK		
T. Bradrick	Member	AU		
K. Sikaris	Member	AU		
J. French	Member	UK		
J. Osypiw	Member	UK		
M. Metz	Member	AU		
M. Turzyniecka	Member	ZA		

WG-ICQA Sub-group for harmonisation of reporting of protein electrophoresis and serum free light chains, and quantification of small monoclonal proteins:

Membership

Name	Position	Country	Term	Time in Office
J. Tate	Chair	AU	1st	2017 01 - 2019 12
M. Graziani	Member	IT		
M. Moss	Member	CA		
M. Willrich	Member	US		

Mission

This new WG will seek harmonisation in the operation of EQA schemes for interpretive comments with a view to increasing the possibility of obtaining evidence to demonstrate benefit to patients

Terms of Reference

- To bring together representatives of current and potential organisers of national EQA schemes for interpretive comments and experts in the area.
- To develop harmonised goals for EQA of IC.
- To devise standard methods of assessment, nomenclature and marking scales for EQA of interpretive comments.
- To establish minimum standards of performance for participants.
- To construct plan to collect evidence to demonstrate the impact of participation in EQA for IC on patient outcome.

9.3.11 Personal Support (WG-PS)

Membership

Name	Position	Country	Term	Time in Office
G. Beastall	Chair	UK	1st	2018 01 - 2020 12
D. Young	Member	US		

Mission
The WG-PS will offer personal support to individual scientists in two areas:
- Scientific Experts willing to share their expertise
- Senior professionals willing to act as Mentors to prospective laboratory medicine directors

Typical beneficiaries will be young scientists, especially from emerging nations, but there will no restriction of access to the WG.

Terms of Reference
- To consolidate the IFCC Register of Experts (RoE) into WG-PS, refreshing its membership and operation
- To consolidate the IFCC Mentoring Programme for Developing Countries (WG-MENT) into WG-PS, refreshing its membership and operation
- To create WG-PS pages on the IFCC website to replace those of RoE and WG-MENT
- In collaboration with the IFCC Office to create a common portal for individuals to access Experts or Mentors according to defined criteria
- To produce and distribute publicity material to promote WG-PS through IFCC Members, Young Scientist networks and social media
- To set targets for expected use of both Experts and Mentors and to monitor performance against those targets
- To seek and evaluate annual feedback from Experts and Mentors and those that use their support services

Delivery
- WG-PS will produce an annual report, with statistics of use and recommendations for future operation
- WG-PS will produce a twice-yearly e-newsletter for all linked to the WG. Extracts from this e-newsletter will be submitted for publication in IFCC e-News
- WG-PS will use webinars and social media to produce personal accounts of the benefits to individuals of using the services of the WG

9.4. EMD Special Projects

9.4.1. Visiting Lecturer Programme (VLP)

Membership

Name	Position	Country	Term	Time in Office
N. Rifai	Chair	US	1st	2018 05 - 2020 12

Terms of Reference
This programme supports international cooperation in educational activities through funding of lectureships on professional, educational and managerial topics. National Societies are invited to apply for a visiting lecturer on a specific subject and/or request a lecturer.

Projects
- Promoting the VLP programme
- Additional visiting lectureships

9.4.2. Flow Cytometry (WG-FC)

Membership

Name	Position	Country	Term	Time in Office
U. Sack	Chair	DE	extra	2017 01 - 2018 12
C. Lambert	Member	FR		
A. Spittler	Member	AU		
K. Psarra	Member	GR		
C. Rodriguez	Member	AR		
A.M. Ivanov	Member	RU		
M. Schiemann	Member	DE		

Terms of Reference

The Working Group will promote and encourage applications of flow cytometry in diagnostics and clinical research through publication of educational material and the organisation of courses and symposia.

Projects

- Organisation of flow cytometry courses on the alternating topics of clinical and research applications of flow cytometry in haematology & oncology and immunology & haemostasis.
- Publication of course handbooks and other relevant material on flow cytometry.
- Organisation of symposia on new trends in cellular diagnostics.
- Publication of symposia proceedings.

9.4.3. Developing Quality Competence in Medical Laboratories (DQCML)

Membership

Name	Position	Country	Term	Time in Office
E. Amann	Chair	DE	1st	2017 01 - 2019 12
J. Smith	Corresponding Member	UK		
R. Greaves	Corresponding Member	AU		
V. Daka	Corresponding Member	ZM		

Terms of Reference

This major initiative for the EMD is aimed at informing emerging laboratory services on all aspects of quality, but concentrating particularly on internal quality control, external quality assessment and working towards laboratory accreditation with the adoption of a quality system in line with the international standard ISO 15189.

Projects

Educational modules, transferable to countries and regions requesting assistance in these areas have been developed and pilot projects in Vietnam (in collaboration with the Australian Association for Clinical Biochemistry) and Sri Lanka have been supported. The Project has delivered lectures in Russia, Romania, Uruguay and Nigeria as well as workshops in Ecuador delivered in Spanish. For 2018, workshops are being planned to develop country-specific EQA programs in Malawi and Nepal.

The project success is built on close working between the committees of EMD and the generous sponsorship of Abbott Diagnostics, via the VLP initiative and Siemens Healthcare, with whom work has been done in developing distance learning packages.

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EMD SPECIAL PROJECTS

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Chapter 10
Communications and Publications Division

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COMMUNICATIONS AND PUBLICATIONS DIVISION EXECUTIVE COMMITTEE (CPD-EC)

Chair:
Prof. Khosrow Adeli (CA)

Vice Chair:
Prof. Edgard DELVIN (CA)

Secretary:
Dr. Eduardo FREGGIARO (AR)

Members:
Prof. János KAPPELMAYER (HU)
Prof. Tahir S. PILLAY (ZA)

Corporate Representative:
To be nominated

CHAIRS OF COMMUNICATIONS AND PUBLICATIONS DIVISION COMMITTEES AND WORKING GROUPS

10.1. Executive	**K. Adeli (CA)**
10.2. Committees	
10.2.1. Public Relations (C-PR)	E. Delvin (CA)
10.2.2 Internet and Distance Learning (C-IDL)	E. Freggiaro (AR)
10.3. Working Groups	
10.3.1. Electronic Journal of IFCC (WG-eJIFCC)	J. Kappelmayer (HU)
10.3.2. IFCC eNews (WG-IFCC eNews)	T. S. Pillay (ZA)
10.3.3. Ibero-American Nomenclature and Translation (WG-IANT)	M. del Carmen Pasquel (EC)

The Communications and Publications Division (CPD)

The Communications and Publications Division (CPD) reports to the Executive Board and is responsible for all of the communication and publication activities of the IFCC.

The CPD is composed of an Executive, Committees on Public Relations and Internet and Distance Learning and Working Groups for each CPD programme. *Ad hoc* task forces for specific projects can also be developed.

The aim of the CPD is to communicate the work of the IFCC to clinical scientists, physicians and health policy makers world-wide, and to provide continuing education in printed and electronic forms. The CPD publishes the eJIFCC, IFCC eNews, eNewsFlash and educational tools including scientific monographs. The CPD coordinates translations of important documents into languages other than English. The CPD is responsible for the coordination of the IFCC Internet activities, primarily through the IFCC web site. This includes preparation and promotion of the IFCC website, establishment of links between relevant resources and the production and participation in Internet and computer educational courses designed to promote the IFCC.

In addition, the CPD publishes the eJournal of the Federation (eJIFCC) on the web, IFCC recommendations and documents in a formal collaboration with the journal Clinica Chimica Acta (CCA) and other international journals in the field. It also publishes educational tools including monographs.

The CPD uses electronic communication to facilitate the availability of IFCC documents to all members at no cost.

10.1. CPD Executive

Membership

Name	Position	Country	Term	Time in Office
K. Adeli	Chair	CA	2nd	2016 01 - 2018 12
E. Delvin	Vice-Chair	CA	2nd	2016 01 - 2018 12

E. Freggiaro	Secretary	AR	1st	01 2016 - 2019 12
J. Kappelmayer	Member	HU	1st	2018 01 - 2020 12
T.S. Pillay	Member	ZA	2nd	2016 01 - 2018 12
To be nominated	Corporate Rep.		1st	2018 - 2020 12

10.1.1. Mission Statement

The mission of the CPD is to:

- Communicate the work of the IFCC to clinical laboratory scientists, physicians and health care policy makers worldwide.
- Provide educational material to clinical chemists in both printed and electronic forms. Much of the work done by the Education and Management Division, the Scientific Division and the Emerging Technologies Division is published after approval and assistance of the CPD. The National Societies and Full Members, Corporate and Affiliate Members are the target audience for all IFCC publications.
- Promote the image of the IFCC to its individual members, to the biomedical industry and to the worldwide health care community at large.

10.1.2. Strategy

The major strategic objectives of this Division are to:

- Define the types of communication and of multimedia training that might be relevant to IFCC members and act as a central point for access to existing information sources, notably those coming from Committees, Working Groups, National Societies and Corporate Members.
- Identify, evaluate and ensure continuing technical awareness of communication methods.
- Develop products, such as the website, educational and PR materials.
- Make widely available, together with other Divisions, new techniques for professional training, such as self-training materials, tutorials and other distance learning (web based) programmes.
- Prepare and provide the most appropriate supporting tools for widespread use of the new teaching techniques.

10.1.4. Terms of Reference

The CPD Executive is responsible for:

- Managing the publication of IFCC official documents, recommendations, and position papers
- Enhancing communication internally within the IFCC community, and externally with other societies and healthcare organisations
- Public relations activities to promote the IFCC organisation as well as the field of laboratory medicine to other stakeholders, governmental bodies and the general public
- Publication and dissemination of news items and scientific/educational material through the e-News and e-JIFCC
- Development and management of the IFCC website as the key tool to enable communication between IFCC units and member societies
- Reporting to the EB and Council to ensure compliance with IFCC bylaws and policies.

The CPD Executive will ensure the progress of each project and publication and will review on an annual basis the contributions of the members of each functional unit.

The CPD is responsible for the continued production of the IFCC Handbook and the Annual Report.
A function of the CPD Executive is to coordinate the publication of all IFCC recommendations, position papers and documents. The Secretary is the liaison to the Editorial Board of Clinica Chimica Acta (CCA). The CPD maintains a register of documents that lists all publications of IFCC.

10.2. CPD Committees

10.2.1. Public Relations (C-PR)

The Chair of this Committee serves as vice-chair of the CPD Executive.
The PR Committee is composed of the Chair plus 4 members from IFCC member countries throughout the world. Each member will represent one major region of the world. Additionally, there are advisors from the regional organisations.

Membership

Name	Position	Country	Term	Time in Office
E. Delvin	Chair	CA	2nd	2016 1 - 2018 12
E.O. Agbedana	Member	NG	1st	2017 1 - 2019 12
M. Krintus	Member	PL	2nd	2018 1 - 2020 12
K. Psarra	Member	GR	2nd	2017 1 - 2019 12
M. Spalvieri	Member	AR	2nd	2017 1 - 2019 12
A. Hedhili	Advisor	AFCB		
A.B. Okesina	Advisor	AFCC		
E. Hoyaranda	Advisor	APFCB		
R. Sierra-Amor	Advisor	COLABIOCLI		
M.S. Graziani	Advisor	EFLM		
A. Gronowski	Advisor	NAFCC		

Terms of Reference
The C-PR's primary mandate is to assist the IFCC in promotion of both the organisation and the disciplines of clinical chemistry and laboratory medicine internationally and to coordinate PR activities of the various IFCC units. The main objectives of this committee and its members are to:

- Identify key PR tools and make recommendations to the CPD, other divisions and/or EB.
- Develop and update promotional materials, through the CPD, on the IFCC organisation and activities, as well as the disciplines of clinical chemistry and laboratory medicine for distribution worldwide.
- Act as a link for distribution of IFCC brochures and other promotion materials to other laboratory professionals in their country of residence, to National Societies, and to Regional Federations.
- Assist IFCC in improving its visibility to other laboratory professionals in their country of residence, to National Societies, and to Regional Federations as well as internationally.
- Act as IFCC ambassadors promoting IFCC and the fields of clinical chemistry and laboratory medicine in their country of residence, to National Societies, and to Regional Federations as well as internationally
- Promote the field of Clinical Chemistry and Laboratory Medicine to the lay public, healthcare administrators and decision makers in their respective country of residence.

Projects

IFCC Brochure:
A brochure introducing IFCC and its international activities was developed and has been used at all IFCC events to publicise the IFCC and its mandate. The brochure has been translated and is available in: Arabic, Chinese, Farsi, French, German, Greek, Italian, Polish, Portuguese, Russian, Spanish, and Turkish.

IFCC PR Brochure:
The IFCC PR brochure, targeting the general public, introduces the critical role of clinical chemistry and laboratory medicine in optimal delivery of healthcare. It highlights key professionals and their role and leadership in the practice of clinical chemistry and clinical laboratory medicine through service, education and research. The IFCC PR brochure is also available in Spanish.

IFCC PR Slide Kit:
A slide presentation introducing the IFCC and its divisional activities is available to all PR committee members and all IFCC Member Countries for presentations at local, regional, and international conferences, to promote the IFCC organisation.

IFCC Laboratory Medicine Slide Kit:
A slide kit on the value of Laboratory Medicine in clinical medicine and the impact of laboratory professionals in patient care and healthcare delivery is available for presentation at various conferences inside and outside of the IFCC organisation. The slide kit is available in English, Spanish and Hungarian.

Current and Future PR plans:
- Strengthen a communication process among PR Committee Members and Regional Federation Representatives so the joint team can most effectively update and work on agreed upon activities and initiatives.
- Prepare and make formal presentations at local and regional conferences.
- Work with the SD and the EMD to promote IFCC as the global coordinator of Laboratory Practice Guidelines.
- Continue developing promotional material targeting the lay audience. The first initiative is, based on the PR brochure targeting the general public, governments, industry, the development of a series of multi-panel posters on different clinical subjects that could be adapted to the local needs/policies, printed by National Societies or displayed on TV screens
- Support the participation of laboratory professionals to local administrators' meetings for promoting the role and value of laboratories in improving healthcare and patient safety.
- Support the development of programmes similar to El Microscopio and their adaptation to local environments, to increase understanding of the impact of laboratory medicine on clinical outcomes and decision making to local healthcare administrators.

10.2.2 Internet and Distance Learning (C-IDL)

Membership

Name	Position	Country	Term	Time in Office
E. Freggiaro	CPD Co-Chair	AR	1st	2018 01 - 2020 12
L. Langman	EMD Co-Chair	US	1st	2018 01 - 2020 12
R. Shrestha	Member	NP	1st	2017 05 - 2019 12

J. Grant	Web Editor	AU	2nd	2017 01 - 2019 12
H.Sakamoto	Member	JP	1st	2018 02 - 2020 12
K. Sztefko	Member	PL	1st	2018 02 - 2020 12
R. Greaves	Consultant	AU		
J. Smith	Consultant	UK		

The CPD Co-Chair of this committee is the CPD Secretary and eLearning Coordinator who is a member of the CPD Executive Committee.

Terms of reference
The purpose of this committee is:
- To maintain the IFCC curriculum on which the e-Academy is based, and in line with the IFCC strategy for distance learning,
- To create and promote web-based e-learning and educational activities to satisfy the content requirements of the IFCC curriculum and National Societies' needs.
- To solicit suggestions from National Societies, IFCC Committees, Task Forces and Working Groups to identify distance learning topic areas of value to IFCC;
  - The committee promotes a multidisciplinary approach to patient care by obtaining educational material, making it available on the web site and by providing links to other relevant resources.
- To identify and evaluate existing distance learning programmes in relevant areas and, with permission and collaboration, modify these as necessary to fit IFCC requirements;
- To develop new distance learning programmes where none already exist.
- To explore and apply new educational technologies that could be helpful for IFCC distance learning

10.3. CPD Working Groups

10.3.1. Electronic Journal of IFCC - eJIFCC (WG-eJIFCC)

The journal is an educational and news vehicle intended for the individual members of the Full Member Societies. The journal has been allocated ISSN Number 1650-3414. Papers are solicited from experts in the field of clinical chemistry and laboratory medicine. Since 1999, the e-JIFCC has only been published on the website.

eJIFCC is archived by PubMedCentral.

The chair of this WG is Editor-in-Chief of the eJournal and is a member of the CPD Executive.

Membership

Name	Position	Country	Term	Time in Office
J Kappelmayer	Chair	HU	1st	2018 01 – 2020 12
K. Adeli	Member	CA		
H.P. Bhattoa	Member	HU		
B. Božič	Member	SI		
E. Delvin	Member	CA		
N.E. Fink	Member	AR		
R. Greaves	Member	AU		
M. Hallworth	Member	UK		
A.R. Horvath	Member	AU		
E. Jacobs	Member	US		
A. Jaffe	Member	US		

B. Jordan	Member	CH
E. Koay	Member	SG
T. Kőszegi	Member	HU
G. L. Myers	Member	US
T. Ozben	Member	TR
M. Pasic	Member	CA
M.del Carmen Pasquel	Member	EC
O. Racz	Member	SK
R.B. Raggam	Member	AT
R. Sierra Amor	Member	MX
S. Stankovic	Member	SR
D. Syed	Member	US
G. Sypniewska	Member	PL
J. Tate	Member	AU
P. Vervaart	Member	AU
S.E. Walz	Member	US

10.3.2. IFCC eNews (WG-IFCC eNews)

IFCC News is a section on the website that informs members of the activities of the Federation. It is sent via e-mail to subscribers and is printed in LabMedica International.

Membership

Name	Position	Country	Term	Time in Office
T.S. Pillay	Chair	ZA	2nd	2016 01 - 2018 12
L. Chabraoui	Member	MA		
M. Charles-Davies	Member	NG		
S. Christou	Member	CY		
R. Erasmus	Member	ZA		
S. Fahel da Fonseca	Member	BR		
X. Fuentes-Arderiu	Member	SP		
D. Gruson	Member	BE		
T. Ha Hoang	Member	VN		
A. Hedhili	Member	TU		
J.B. Lopez	Member	MY		
B. Meska Pika	Member	SY		
A. Piana	Member	UY		
R. Sierra Amor	Member	MX		
G. Sypniewska	Member	PL		
T. Van Ta	Member	VT		
B. Yadav	Member	NP		

Terms of Reference

The purpose of this WG is to:

- Gather and disseminate information about the activities of the EB, SD and EMD and their Committees and Working Groups.
- Publish news and information about the activities of IFCC Members and Corporate Members.
- Provide early information about discussions taking place within the Division Committees in order that the topics of current concern and future developments, are known to all those practicing in the field.
- Publish a calendar of all IFCC congresses and meetings.

10.3.4. Ibero-American Nomenclature and Translations (WG-IANT)

Membership

Name	Position	Country	Term	Time in Office
M. del Carmen Pasquel	Chair	EC	2nd	2017 01 - 2019 12
E. Abraham	Member	CU		
A. Antunez de Mayolo	Member	PE		
E. Aranda	Member	CL		
L.M. Brennan Bourdon	Member	MX		
R. Calafell	Member	ES		
P. Chueca	Member	ES		
R. García	Member	AR		
Z.R. García	Member	DO		
A.C. Garzón	Member	CO		
A. Justiniano	Member	BO		
E. Guillen	Member	PY		
P. Jaramillo	Member	EC		
J. Juarez	Member	PA		
M. E. Lasta	Member	AR		
G. Lima-Oliveira	Member	BR		
A. L Maselli	Member	GT		
A.M. Piana	Member	UY		
H. Reguengo	Member	PT		
M. Rosario	Member	DO		
A. Sáez-Alquezar	Member	BR		
B. Varela	Member	UY		

Terms of Reference

The purpose of this WG is to:

- Organise and manage the RIA pages on the web site.
- Provide individuals to serve on the Editorial Board of the Spanish eJournal "Diagnostico in Vitro" (edited by Maria del Carmen Pasquel).
- Produce Spanish and Portuguese terminological documents.
- Produce Spanish and Portuguese translations of IFCC documents.
- Produce Spanish and Portuguese informative and educational documents.

10.4. Publication of Recommendations and Documents

10.4.1. Types of Report

IFCC publishes three types of report:

- Recommendations
- Position papers
- Documents

10.4.2. Sources

The IFCC documents are prepared by the Divisions, their Committees and Working Groups, and by any other IFCC functional unit. Some documents are prepared in conjunction with other organisations.

10.4.3. Products

The final outcome of a project may be a recommendation, a position paper or a document. If any of the projects involves significant contribution from external agencies, this credit should be acknowledged at the outset.

Recommendations
Recommendations are produced in order to harmonise the educational and scientific development and aspects of the practice of clinical chemistry and laboratory medicine. Recommendations are prepared according to IFCC guidelines and are subject to approval by the IFCC Member Societies through a mail ballot (Council approval) prior to publication. They are intended to be definitive statements by the IFCC.
Recommendations are printed in peer reviewed scientific journals, such as CCA, and are announced in eJIFCC on the website.

Position papers
Position papers are produced in order to stimulate and highlight development within specific areas, for scientific and educational purposes and for purposes of discussion and clarification of selected topics. Issues identified in position papers may ultimately become Recommendations following further work commissioned by a Division. In such cases they must undergo the procedure outlined above. Position papers submitted for publication must undergo standard editorial processes including peer review. Position papers must include a statement that they were commissioned by IFCC although they do not carry any official endorsement by IFCC.
When published, position papers are generally not attributed to any of IFCC's Divisions, Committees or Working Groups, but to individual authors. However, the affiliation of the authors with a Division, Committee or Working Group should be stated. Position papers should appear in peer reviewed scientific journals, such as CCA, eJIFCC or in journals or newsletters of Member Societies.

Documents
Any other papers produced by IFCC are considered as "documents." These cover a wide range of topics, such as (1) editorial, (2) reviews, (3) educational, (4) standardisation and (5) management issues. Documents reaching publication are organised by the respective Division in collaboration with the CPD and undergo standard editorial review. A statement indicating IFCC support must be included in all documents. Documents may appear in peer reviewed scientific journals, such as CCA, eJIFCC or in journals or newsletters of Member Societies. Committees or Working Groups must submit publications after their proposal has been approved. In 2013, the IFCC selected Clinica Chimica Acta (CCA) to be its official journal for publication of IFCC official documents and position papers.

10.4.4. Translations

In order to obtain approval for the translation of an IFCC Publication, a request, in writing must be sent to the CPD. The decision to allow the translation will be made by the CPD. Any IFCC publication that has been translated must carry a statement that "This translation was authorised by the IFCC. However, the IFCC does not accept any responsibility for the accuracy of this translation. The definitive document remains the original document in English".

10.4.5. Copyright Release

A copyright release may be requested for all IFCC publications by sending a request in writing to the Chair of CPD.

10.5. General Rules of Procedure

10.5.1. IFCC Procedure Manual

The CPD Executive supports the Secretary of the IFCC Executive Board in the preparation of the IFCC Procedures Manual.

10.5.2. Individual Responsibilities for Preparation of an IFCC Document

The CPD secretary is responsible for organising the database of IFCC publications. The list includes documents and papers published in journals, conference proceedings and monographs. The entries are listed according to the IFCC-EB numbering system and in chronological order. IFCC publications are edited to ensure the nomenclature and units used conform to approved IFCC recommendations.

The categories of IFCC publications and the individuals responsible for them are:

Publication	Responsible Individual
C/WG Recommendations	CPD Secretary
C/WG Position papers	CPD Secretary
C/WG Technical reports	CPD Secretary
C/WG Reviews	CPD Secretary
C/WG Guidelines	CPD Secretary
Minutes (all Units)	Secretaries of Unit
Annual Report	Secretary of EB/Chair of CPD
IFCC News	Editor, IFCC News
eJIFCC	Editor, eJIFCC
Handbook	Secretary of EB / Chair of CPD
Conference Proceedings	Special Editor
Monographs, Books	Special Editor
Promotional Materials	Vice-Chair of CPD / Corporate Representative
Multimedia	Vice-Chair of CPD / Corporate Representative

10.5.3. Instructions to Authors

The latest instructions for authors are available on the IFCC website.

10.6. Publications

10.6.1. Preparation of Documents of Committees and Working Groups

Stage 1:
The draft document is developed in order to meet IFCC standards for quality and to ensure consensus with regards to its contents.

Step 1:
The author arranges consultation and a critical review, involving associate members,

member society representatives, corporate member representatives, EB members, Division, Committee and Working Group Chairs, other IFCC groups and the other individual scientists or organisations. Assistance may be requested from the IFCC Office to circulate the document. It is pertinent to acknowledge comments received. The outcome of the consultation and the consequences for the draft document must be reported to the Division.

Step 2:
If the publication is planned to occur in a peer reviewed scientific journal, the author identifies, in consultation with the Division, two to six external referees. The Division may accept as an alternative, to use referees appointed by the editor of a scientific journal. Comments received from external referees must be acknowledged and commented by the senior author of the document. It is obligatory that reviewers be informed about the decisions taken by the authors. As a courtesy, referees should be acknowledged in a foot note of the title page.

Step 3:
The Division evaluates the draft document and decides on taking the referees' comments into consideration, whether it should be upgraded to stage 2 or redrafted. The Division confirms or changes the planned type of product and publication. Draft documents may undergo editorial changes.

Stage 2:
The document is reviewed and/or prepared for publication.

Step 4:
The Executive Board (EB) receives from the Division Stage 2 documents with a recommendation from the Division as to necessity for Council approval and the justification for a mail ballot. EB then decides to arrange a mail ballot or to refer the draft document to CPD for publication as an IFCC document. Decisions concerning further handling of the document are made after consultation between the Division and CPD.

Step 5:
CPD receives from EB or from the Division, Stage 2 draft documents approved for publication as IFCC Recommendations or IFCC Documents. New Stage 2 documents are announced in e-JIFCC. Copies should be available from the IFCC Office upon request.

Preparation of IFCC Documents

Stage 1:

Step 1:	Committee, Working Group, Authors Draft document Consultation and Internal Review
Step 2:	External Review
Step 3:	Division Evaluation, review, Decision on the Product

Stage 2:

Step 4:	Recommendation Executive Board / Council Mail Ballot
Step 5:	Document or Position Paper Division (Author) Communication & Publications Division (CPD Secretary)
Outcome:	CCA Peer Reviewed Scientific journal eJIFCC

10.6.2. Monographs

Monographs are published as a multidisciplinary series featuring an in-depth study or group of closely related studies per issue. Monographs cover all aspects of laboratory Medicine.

10.6.4. Conference Proceedings

The CPD publishes on the IFCC website conference proceedings when available, and when speakers have granted their permission.

10.6.5. Annual Report

The annual report is published once a year on the IFCC website and is available in LabMedica International in the July issue.

10.6.6. Handbook

The IFCC Handbook is published every three years.

10.6.8. Views and Reviews

Technical notes entitled “Views and Reviews” including book reviews are published in e-JIFCC.

10.6.10. Electronic Publications

Relevant publications in the field of laboratory medicine can be published on the website after CPD approval.

10.6.20. Other Publications

Other publications are considered by the CPD. A proposal must be sent to the Chair for this purpose.

10.7. Website (www.ifcc.org)

The IFCC website (www.ifcc.org) is a portal to international resources for laboratory medicine. As well as hosting a wealth of IFCC resources, news, media and publications, it also provides an up-to-date event calendar and links to member, corporate and partner organisations. It also provides ready access to continuing education material such as webinars produced on behalf of IFCC and to distance learning programmes.
Information on the web-site includes:

- Membership information
- Member societies (organisations and individuals)
- Corporate members (companies and individuals)
- Members of IFCC units (EB, Divisions, Committees, Working Groups)
- Congresses, meetings, symposia, etc. (IFCC/IFCC sponsored/member society/other)
- IFCC units (Divisions, Committees, Working Groups)
- List of IFCC publications (1973 to present)

10.7.1. Organisational Matters

The management of the website is the responsibility of the Web Editor. The IFCC Office Liaison is responsible for continuously updating the information on the website.

10.7.3. e-Banners

Corporate Members are entitled to have their own banner on the home page of the IFCC website. The image can be linked to the company website and it must have pre-established dimensions of 140 by 91 pixels and should be sent to the IFCC Office to be uploaded.

10.7.4. Databases

The website currently hosts a database of IFCC publications and the NPU Terminology and is available to host other databases as required by individual committees and working groups.

10.7.5. Distance Learning Programmes

Web-based (distance-learning) educational activities will be made available on the IFCC website. This is a joint function with EMD C-DL

10.8. Related Journals

10.8.1. Meetings of Editors

CPD organises a meeting of the Editors of Clinical Laboratory journals at each IFCC International Congress with the purpose of working towards common goals, and to allow the CPD to assist the Member Societies with their publications when requested.

10.8.2. Journals

The EB gives a publisher the right to publish news, approved recommendations, and other IFCC documents. The copyright for these contributions lies with the IFCC. The CPD Secretary is the contact person to the journal editor on publication matters.

Since 1975 the contracted journals for IFCC documents have been:
- European Journal of Clinical Chemistry and Clinical Biochemistry 1975-1991
- Clinica Chimica Acta 1975
- Clinical Chemistry and Laboratory Medicine 1991 – 2012
- Clinica Chimica Acta 2013 - present

Free access to the full online version of the contracted journal is provided for:
- Each National Representative and President per each Member Society and Affiliated Member Societies associated with IFCC
- Members of the Executive Board
- Chairs of the Divisions
- Presidents of the Regions
- Members of the CPD Executive.

The Publisher provides complimentary access to ScienceDirect and Scopus to the Editor-in-Chief of eJIFCC, the Chairman of the Scientific Division, the Chairman of the Communications and Publications Division and the Chairman of the emerging Technologies Division of IFCC.

10.9. Public Relations

The Public Relations strategy and programme of CPD is developed and implemented by the Committee for Public Relations. CPD develops external communication, where appropriate, with National Societies and Corporate Members in order to promote the image and goals of IFCC. Potential exists for IFCC advertisements or information in announcements and programmes of congresses held under IFCC auspices and in monographs adopted by IFCC from Corporate Members. The CPD will publish programme and meeting details on the IFCC website to provide functional web resources to congresses or conferences.

10.9.1. IFCC Brochure

The CPD publishes the IFCC Brochure publicising the IFCC organisation. This brochure is available from the IFCC office or Website. Two other PR brochures have also been developed, one for the general public and one targeted to industry.

10.9.2. IFCC Congress Booth

CPD in collaboration with the IFCC office organises an IFCC Booth where IFCC publications and activities are exhibited. The booths may include computer facilities to demonstrate IFCC activities when possible.

10.9.3. Posters

A series of posters presenting the activities and the historical accomplishments of the IFCC is available to be displayed during the meetings held under auspices of IFCC.

10.9.4. Publicity

The CPD produces advertising tools for IFCC members and manages PR activities through the Committee on Public Relations.

10.9.5. Miscellaneous Public Relations Projects

The CPD organises questionnaires for member society surveys and surveys of individual participants of congresses. It also delivers presentations and symposia at international and regional conferences to promote IFCC and the field of laboratory medicine.

10.10. Corporate Member Activities

The role of the CPD Corporate Representative is to maintain and improve communications between Corporate Members and CPD, solicit support from Corporate Members for CPD activities when required, and facilitate activities of Corporate Members with the CPD.

10.19 Communications and Publications Division Meetings

The CPD meets at least twice per year to discuss and approve publications, set policies and communicate strategic directions. A quorum is present when at least four members are present, one of who must be the Chair or his/her designee. Items for the agenda should be introduced prior to a meeting by any member of CPD or by other interested parties. Corresponding Members are encouraged to attend meetings of CPD, but without funding from the CPD. At the IFCC General Conference and the IFCC International Congresses, the CPD meets with EMD, SD, C-CC and EB.

List of Addresses

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Chapter 11
Emerging Technologies Division

11. Emerging Technologies Division (ETD)

11.1. ETD- Executive Committee (ETD-EC)

11.1.1. Mission Statement
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11.1.3. Responsibilities
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11.2. Emerging Technologies Division Committees

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11.2.2. Committee on Mobile Health and Bioengineering in Laboratory Medicine (C-MHBLM)
11.2.3. Committee for Omics Translation (C-OT)

11.3. Emerging Technologies Division Working Groups

11.4. Corporate Member Activities

11.5 List of Addresses

11. Emerging Technologies Division (ETD)

The IFCC Emerging Technologies Division (ETD) is a new Division proposed and formally ratified by the IFCC Executive Board in 2017. The ETD formally takes effect on 1st January 2018. Two Task Forces previously under the Executive Committee (Task Force on Paediatric Laboratory Medicine (TF-PLM) and the Task Force on Geriatric Laboratory Medicine (TF-GLM)) are now part of the ETD.

11.1. ETD Executive Committee (ETD-EC)

Membership

Name	Position	Country	Term	Time in Office
S. Bernardini	Chair	IT	1st	2018 01 - 2020 12
P. Fortina	Vice-Chair	US	1st	2018 01 - 2020 12
R. Greaves	Secretary	AU	1st	2018 01 - 2020 12
D. Gruson	Member	BE	1st	2018 01 - 2020 12
M. Roessler	Corporate M.	DE	1st	2018 01 - 2020 12
P. Yin	Corporate M.	US	1st	2018 01 - 2020 12
M. Ferrari	Consultant	IT	1st	2018 01 - 2020 12
L. Kricka	Consultant	US	1st	2018 01 - 2020 12

11.1.1. Mission Statement

The ETD is a functional unit responsible for identifying and assessing emerging technologies and for translating the emerging and disruptive diagnostic and data analysis procedures from academic laboratories to clinical laboratories and from clinical laboratories to market.

11.1.2. Strategy

The ETD initiates and manages projects through its Committees and Working Groups (WG). Work is conducted in strict cooperation with other IFCC units and with relevant national and international organisations. The ETD ensures that each of its Committees and Working Groups are functioning under clear terms of reference together with an agreed upon schedule of activity. The ETD will assist in the development of project proposals and will undertake an annual review of progress and review as well as approve documents arising from such projects.

11.1.3. Responsibilities

- The application of emerging technologies and methods including mass spectrometry, high-throughput genotyping techniques, mobile health technologies and data analysis to clinical diagnostic protocols focused on Precision Medicine;
- Defining for each emerging technology the clinical needs and criteria of education of specialists in Laboratory Medicine and caregivers;
- Defining for each emerging technology and method the appropriate infrastructure and laboratory organization;
- Defining for each emerging technology and method pre-analytical, analytical and post-analytical processes necessary for clinical laboratory applications;
- Defining for each emerging technology and method quality programs and certifications required to meet criteria for accreditation up to ISO151811 standard;
- Assess the clinical value of each test with regard to addressing unmet clinical need.

11.1.4. Terms of Reference

The ETD is a functional unit of the IFCC involved in the production of publications arising from activities relating to the application of emerging and disruptive technologies to clinical laboratories.
All ETD activities are well-defined projects, which work within a specified time frame, and are intended to result in a document (an IFCC official document or manual, guideline, or a scientific paper in a refereed international journal), in a product (reference system, service or device), or within the framework of an international activity (scientific workshop, symposium or congress).
The ETD is responsible to the EB and Council to ensure the highest standards of work in its units and for the actions of its members.

11.1.5. Projects

The ETD initiates and manages projects with its own resources or through its Committees and Working Groups. Work is conducted in cooperation with other IFCC units and with relevant national and international organizations. The ETD ensures that each of its Committees and WGs are functioning under clear terms of reference together with an agreed upon schedule of activity. The ETD-EC will assist in the development of the project proposals, and will undertake an annual review of progress as well as review and approve any documents that result from the work. Project applications should be made on the ETD Project Proposal Form (available from the IFCC Executive Board webpage).

- The ETD Executive Committee, as the overall managing group for the Division, will ensure the progress of each project, will terminate completed or non-productive projects, and will review the contributions of the members of each functional unit, on a yearly basis.
- Work of the ETD units is carried out in cooperation with other IFCC units, with relevant national and international organizations, and with individuals specifically proficient in a defined area of competence.
- Work within ETD units is to be clearly defined in the goals, terms of reference and a specific timetable for each project.
- An annual review will be carried out by each functional unit for every project within its responsibility.
- The ETD Executive Committee will actively seek, under the appropriate guideline(s) and together with the Corporate Representative on the IFCC Executive Board (EB), the necessary funding to achieve the completion of appropriate scientific projects.
- Outside funding for projects is permitted, but only within the IFCC guidelines for this action (see “Guidelines for Funding from Industry and Other Sources”), and must be approved by the Division Executive Committee and by the IFCC EB. Administration of such funds will be through the IFCC Treasurer’s office.
- The ETD Executive Committee will assign a liaison officer to each of its Committees to monitor the progress of the projects under its responsibility.
- All project proposals will be reviewed by the Divisional Executive Committee and submitted to the IFCC EB for concurrence.
- Preparation of all documents must follow IFCC regulations for publications (see “Guidelines for Preparation of IFCC Documents”).
- The ETD Executive Committee will ensure that Committee and WG Chairs are aware of their responsibilities and of the IFCC resources available to them, and that they communicate promptly and effectively with all corresponding members nominated to their unit.

11.2. ETD Committees

11.2.1 Committee for Emerging Pediatric Laboratory Medicine (C-EPLM) (previously Task Force on Paediatric Laboratory Medicine – TF-PLM)

At the time of publication of this handbook, the proposed ETD Committee had not been formally ratified by the IFCC Executive Board and are therefore the information listed here refers to the IFCC Task Force.
Please refer to the IFCC website under the ETD to view the current ratified Committee.

Membership

Name	Position	Country	Term	Time in Office
M. Metz	Chair	AU	1st	2015 01 - 2017 12
T. Lang	Vice-Chair	UK	1st	2015 01 - 2017 12
V. L. Grey	Past-Chair	CA	1st	2015 01 - 2017 12
M. Hersberger	Member	CH	1st	2015 01 - 2017 12
T.P. Loh	Member	SG	1st	2015 01 - 2017 12
I. Papassitiriou	Member	GR	1st	2017 07 - 2019 12
M. Turzyniecka	Member	ZA	1st	2015 01 - 2017 12
S. Geaghan	Consultant	US		
P.M. Jones	Advisor	US		
K. Kohse	Advisor	DE		

Improving diagnosis and management of patients from birth to adolescence:
The purpose of this Task Force is to develop procedures and processes to improve the diagnosis and management of patients from birth to adolescence

This Task Force will:
- Coordinate activities worldwide directed towards the establishment of reference intervals for laboratory test results in pediatric patients of all age groups
- Form a sound support basis for the continuation of the International Congresses of Pediatric Laboratory Medicine which have been very successful over the past 25 years
- Create a worldwide network of scientists working in laboratories specialized in Pediatric Medicine

Why Pediatric laboratory medicine?
Children are not simply small adults - this holds especially true when they become patients. Pediatric patients comprise a group with special problems, also with regards to the results of laboratory investigations.
Local and regional activities exist in which an exchange of ideas and concepts for the role of the laboratory in the care of children's health take place, but in general, these acitivities are not linked to each other. In spite of a variety of activities in the past years, reference intervals for laboratory test results are often not very well defined for the pediatric population, a situation which is even worse in adolescent medicine.
The subject of the Task Force is obviously relevant to large numbers of people - a substantial proportion of our patients are children.
Especially in pediatric patients, the role of the laboratory is crucial for diagnosis and follow-up, e.g., in metabolic disorders or genetically determined diseases.

Activities of the Task Force will include:
- Coordination, promotion and development of existing IFCC SD research activities associated with reference intervals. Existing regional groups within IFCC, e.g.,

the Nordic States (Denmark, Sweden, Norway, Finland and Iceland) are currently engaged in the development of Pediatric Reference values. By close interaction with this group and the IFCC SD, the Task Force will expand these activities to other regions of the world
- Establishment of a concept for the next International Congresses of Pediatric Medicine. As the preferred setting, the Congress will be held in conjunction with an IFCC meeting or a meeting taking place under the auspices of IFCC
- Regularly publish reports on the progress of the Task Force's activities and other relevant articles in the field of Pediatric Laboratory Medicine in the IFCC Journal

11.2.2. Committee on Mobile Health and Bioengineering in Laboratory Medicine (C-MHBLM)

11.2.3. Committee for Omics Translation (C-OT)

At the time of publication of this handbook, the proposed ETD Committees have not been formally ratified by the IFCC Executive Board and are therefore not detailed here. Please refer to the IFCC website under the ETD to view the current ratified committees.

11.3. ETD Working Groups

At the time of publication of this handbook, the proposed ETD WGs have not been formally ratified by the IFCC Executive Board and are therefore not listed here. Please refer to the IFCC website under the ETD to view the current ratified WGs.

11.4. Corporate Member Activities

The Corporate Members bring relevant industry expertise, experience and support to the Division to facilitate more involvement, voice, support from IFCC industry members and help drive Executive Committee's missions and projects. IFCC Corporate Members may propose projects.

11.5. List of addresses

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Chapter 12
IFCC Awards

12.1. Awards Committee

Members

Name	Position	Country	Term	Time in Office
M. Ferrari	Chair	IT	1st	2018 01 - 2020 12
To be nominated	*Member*			
To be nominated	*Member*			
To be nominated	*Member*			
To be nominated	*Member*			
To be nominated	*Member*			

The officers of the IFCC or members of the IFCC Awards Committee are not eligible for the awards during their tenure of office.

IFCC Awards and Recipients

12.1.1. IFCC Distinguished Clinical Chemist Award

This award recognises 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 solution of medical problems.

1969 D.D. Van Slyke (US)
1972 C.P. Stewart (UK)
1975 L. Eldjarn (NO)
1978 C.B. Laurell (SE)
1981 P. Metais (FR)
1984 P. Astrup (DK)
1987 H.U. Bergmeyer (DE)
1990 N.G. Anderson (US)
1993 R. Ekins (UK)
1996 M. Wilchek (IL)
1999 D.W. Moss (UK)
2002 C.N. Hales (UK)
2005 G.M. Siest (FR)
2008 D.S. Young (US)
2011 U.H.E. Stenman (FI)
2014 M.J. McQueen (CA)
2017 DYM Lo (HK)

12.1.2. IFCC Distinguished International Services Award (1981-1987) IFCC-Wishinsky Award for Distinguished International Service (Since 1990)

This award honours an individual who has made unique contributions to the promotion and understanding of Clinical Chemistry and Laboratory Medicine throughout the world.

1981 M. Rubin (US)
1984 P. Lous (DK)
1987 T.P. Whitehead (UK)
1990 M.L. Castillo de Sanchez (MX)
1993 R. Dybkaer (DK)
1996 N. Tietz (US)

1999 M. Shaarawy (EG)
2002 O. Zinder (IL)
2005 J.H. Ladenson (US)
2008 D. Burnett (UK)
2011 C.A. Burtis (US)
2014 R. Dufour (US)
2017 J. Hicks

12.1.3. IFCC Award for Distinguished Contributions in Education

This award honours an individual who has made extraordinary contributions in establishing and developing educational materials for our discipline to improve training and educational programmes worldwide or in a region.

1999 L. Thomas (DE)
2002 J.B. Henry (US)
2005 W.J. Marshall (UK)
2008 N. Tietz (US)
2011 M.F. Burritt (US)
2014 C.A. Burtis (US)
2017 N. Rifai (US)

12.1.4. IFCC-Abbott Award for Significant Contributions in Molecular Diagnostics

This award honours an individual who has made unique contributions to the promotion and understanding of molecular biology and its application in Clinical Chemistry and Laboratory Medicine worldwide.

2002 L. Peltonen (FI)
2003 R.M. Bertina (NL), P.H. Reitsma (NL)
2004 M. Ferrari (IT)
2005 C.T. Wittwer (US)
2006 Y.M.D. Lo (HK)
2007 U. Landegren (SE)
2008 O. Kallioniemi (FI)
2009 E. Diamandis (CA)
2010 G. Tsongalis (US)
2011 M. Neumaier (DE)
2014 F. Barany (US)
2017 S. Branford (AU)

12.1.5. IFCC Distinguished Award for Laboratory Medicine and Patient Care

This award honours an individual who has made unique contributions in Laboratory Medicine, its application in improving patient care, and having a worldwide impact in clinical medicine.

2008 C.W.K. Lam (HK)
2011 R. A. Wanders (NL)
2014 M. Plebani (IT)
2017 E. Diamandis (CA)

12.1.6. IFCC-Robert Schaffer Award for Outstanding Achievements in the Development of Standards for Use in Laboratory Medicine

This award honours 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.

2008 L. Siekmann (DE)
2011 L. Thienpont (BE)
2014 W.G. Miller (US)
2017 M.M. Muller (AT)

12.1.7 IFCC Young Investigator Award

This award recognises 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 early in his/ her career.

2011 R.W.K. Chiu (HK)
2014 G. Baird (US)
2017 R. Shrestha (NP)

12.1.8 IFCC HyTest Distinguished Award for Contributions to Cardiovascular Diagnostics

This award honours an individual who has undertaken remarkable scientific work with cardiac markers or immunodiagnostic applications to improve cardiac disease diagnosis. It has been presented for the first time on occasion of the WorldLab Congress held in Durban in 2017.

2017 J.H. Ladenson (US)

12.2. List of Addresses

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Chapter 13
Task Forces and Special Projects

13.1 Task Forces

13.1.1 Task Force on Ethics (TF-E)

Membership

Name	Position	Country	Term	Time in Office
N. Fink	Chair	AR	1st	2018 01 - 2020 12
L. Breimer	Member	SE	1st	2017 03 - 2019 12
T. Higgins	Member	CA	2nd	2017 01 - 2019 12
C. Sekadde-Kigondu	Member	KE	2nd	2017 01 - 2019 12
To be nominated	*Member*			
D. Bruns	Consultant	US		
J. Jonsson	Consultant	IS		

Aims:

- To increase awareness among Laboratory Medicine Professionals of ethical issues
- To encourage the practice of Laboratory Medicine to the highest ethical standards
- To develop position papers on appropriate ethics policies issues
- To provide a voice for Laboratory Medicine on ethics policies
- To link Laboratory Medicine, ethics and the public interest.

Objectives:

- Recognising that IFCC is formed by representatives from Clinical Chemistry and Laboratory Medicine in more than 90 countries plus more than 40 corporate members, it is unlikely that position papers will have the complete agreement of all of our members. They are position papers and should not be put to a vote. The objective is to produce a statement with widespread support from the members of the Federation
- A secondary objective is to ensure that each paper is published in professional journal(s) and that it is also made available to the general public.

Background:

During the term 1997-1999, the EB of the IFCC accepted the principle of establishing an Ethics Committee. It was identified that the greatest need was not for a Committee that would look inwardly at personal and professional ethics or codes of behaviour, since these can best be dealt with at the level of the individual society or country. During the past 20 years there has been an increasing number of pre-symptomatic tests that can be offered to the community. Some of the challenges have been in laboratory organisation and testing but these are minor compared to broader issues affecting those targeted for screening and the general community. DNA testing combined with newer genetic and biochemical techniques raise significant issues of community awareness, education, informed consent and pre- and post-test counselling. The genetic information stored and used must also have safeguards that ensure there are no stigmatisation and discrimination issues. In various parts of the world individual professional organisations have raised awareness of these issues among their members and have produced documents addressing some of the key issues. In general, the Laboratory Medicine community has not provided organised discussion in which the members can actively participate. There has been even less effort at the international level to create a collective voice for Laboratory Medicine. Laboratory Medicine organisations have a goal and responsibility to advance the interest of their members but the IFCC strategic vision also clearly states that the ultimate goal is to benefit the health and well-being of the patients and communities we serve. This test of our professional responsibility demands that we do not simply perform tests and use technology uncritically. We cannot be isolated from the impact of our work on society.

List of Addresses:

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13.1.6 IFCC Task Force for Young Scientists (TF-YS)

Membership

Name	Position	Country	Term	Time in Office
P. Kumar Dabla	Chair	IN	2nd	2017 01 - 2019 12
G. Boursier	Member	FR	2nd	2017 01 - 2019 12
S. Fares Taie	Member	AR	1st	2016 03 - 2018 12
D. Li	Member	US	2nd	2016 01 - 2018 12
O. Popoola	Member	NG	2nd	2016 01 - 2018 12
M. Savkovic	Member	SRB	2nd	2016 01 - 2018 12
D. Gruson	Consultant	BE		

Aim
The aim of TF-YS is to ensure that young scientists make a significant and growing contribution to the activities of IFCC and to the promotion of laboratory medicine at the centre of healthcare.

Objectives
- To identify young scientists amongst IFCC Full and Corporate Members
- To use modern information technology to establish formal and informal networks to facilitate the communication between young scientists who are involved in laboratory medicine.
- To link with national society young scientist initiatives.
- To encourage young scientists to share experience of laboratory medicine and other healthcare practice around the world

- To disseminate and promote innovation and high quality scientific and clinical practice standards
- To facilitate opportunities for young scientists to train in modern, state of the art laboratory practice
- To enable young scientists to participate in scientific, clinical and educational meetings and other learning sessions
- To encourage young scientists to participate in national and international programmes to promote the essential contribution of laboratory medicine to healthcare
- To make young scientists aware of the existence and role of IFCC and to encourage their participation in IFCC activities
- To assure the future of IFCC through the identification of young scientists who may develop into future experts capable of leading IFCC Divisions, Committees and Working Groups and becoming IFCC Officers

Delivery

- For the purposes of definition, a young scientist is a medical or science graduate working or training in laboratory medicine. He/she will normally be aged less than 40y at the time of appointment to work with TF-YS. The term of office of any young scientist involved with TF-YS is three years with renewal for a maximum of one further three-year term of office.
- TF-YS will comprise a Chair and, normally, a maximum of four other core members. Core membership of TF-YS will ensure geographical representation and linkage to national societies that have experience of working with young scientists. TF-YS will also have an extensive number of corresponding members. All IFCC Full Members and Corporate Members will be invited to nominate young scientists to serve as core or corresponding members of TF-YS. Membership of TF-YS will be confirmed by the IFCC Executive Board on the recommendation of the TF-YS Chair.
- TF-YS will communicate mainly through modern electronic and social networking media. Communication will include all core and corresponding members of TF-YS and may develop into other networks as agreed by TF-YS.
- TF-YS may organise regular workshops for young scientists within the framework of existing IFCC international or regional meetings. With the permission from the organisers TF-YS may also hold occasional workshops within national society or specialist society meetings. No expenses will be paid by IFCC for attendance at these workshops.
- TF-YS will be able to communicate with and request support from other IFCC functional units.

Accountability

The TF-YS will report directly to the IFCC Executive Board. A nominated member of the Executive Board will act as a liaison person for TF-YS. The TF-YS will prepare an update report for each meeting of the Executive Board and may contact the Board, through the designated liaison person, at other times. Any additional finance raised by TF-YS will be accounted for through normal IFCC accounting procedures and will be subject to financial audit.

List of addresses:

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13.2. IFCC Professional Exchange Programme (PEP)

IFCC offers a small number of scholarships each year to facilitate professional exchange programmes for young scientists. The purpose of professional exchange programmes is to:

- Promote international co-operation between laboratories
- Facilitate the exchange of young laboratory scientists between IFCC Member societies
- Share high level scientific or management skills
- Introduce new or improved scientific or management skills to the applicant's laboratory.

Applicants for an IFCC professional exchange programme will:

- be a member of an IFCC Full Member or Affiliate Member national society
- be aged under 40 years at the time of the exchange programme
- have a specific project to complete in a designated host laboratory
- not have received funding from IFCC for other PEPs.

Applications must have the support of both partner laboratories.
Duration of exchanges: 3 months maximum.

Successful applicants will be entitled to receive economy return travel expenses from his/her home base to the host laboratory and a subsistence allowance for a maximum of three months.
At the completion of a professional exchange programme the successful applicant is required to:
- Write a short report of his/her experience for publication in IFCC News.
- Where appropriate, submit a scientific paper for publication in the electronic journal of IFCC.

These exchange programmes are open for laboratories in all countries where an IFCC member society is active.
For complete details of these programmes and how to apply for participation, please visit the IFCC website at: http://www.ifcc.org/ifcc-education-division/pep-professional-exchange-programme/.
IFCC has developed two categories of professional exchange programme:
- Professional Scientific Exchange Programme (PSEP)
- Professional Management Exchange Programme (PMEP).

13.2.1. Professional Scientific Exchange Programme (PSEP)

The purpose of a PSEP is to exchange or develop high level scientific information or skills.
Applications for a PSEP may come from any IFCC Full Member or Affiliate Member national society.
Examples of suitable PSEP projects include (but are not restricted to):
- Conduct of a collaborative research project between base and host laboratories;
- Use of a method or technique not available in the base laboratory in order to complete a research project;
- Learning a new method or technique in the host laboratory which will be introduced into the base laboratory after the PSEP is complete;
- Completion of a collaborative evidence-based scientific project such as the preparation of a systematic review;

Scientific publications resulting from this exchange programme have to acknowledge IFCC's support.

13.2.2. Professional Management Exchange Programme (PMEP)

The purpose of a PMEP is to develop appropriate quality management skills in order to improve the performance and quality of service offered to patients by the base laboratory.
Applications for a Professional Management Exchange Programme (PMEP) may only come from IFCC Full Member or Affiliate Member national societies that are in countries where quality management and/or laboratory accreditation are at an early stage of development.
Examples of PMEP include:
- Acquiring skills to introduce effective internal quality control;
- Acquiring skills to introduce an external quality assurance scheme to a country;
- Acquiring skills to introduce quality management to the base laboratory;
- Preparation to enable the base laboratory to apply for laboratory accreditation in line with ISO Standard 15189.

The host laboratory for a PMEP will normally be in the same IFCC Region as the applicant.

13.3. IFCC Travel Scholarships

IFCC-Roche travel scholarships are available to allow young scientists from developing countries to participate in relevant international scientific congresses and conferences. Applicants should be working in a developing country member of IFCC and should be less than 40y of age on 1 January of the year in which the congress or conference occurs. Priority will be given to applicants who are submitting an abstract to the meeting. IFCC-Roche travel scholarships may be used for any relevant international scientific congress or conference. Each year IFCC promotes the scheme and lists some IFCC meetings that do qualify, but this list is not exclusive. It is a condition of the scheme that the congress or conference should take place in a country other than that in which the applicant works.

The IFCC-Roche travel scholarships will provide funding towards the cost of economy travel and accommodation. IFCC will seek to ensure that scholarship recipients receive free registration for the congress or conference that they attend.

Applicants will be required to complete the application form that can be obtained from the IFCC Office (ifcc@ifcc.org). The completed application should be submitted, together with supporting information, to the IFCC Office.

IFCC acknowledges the generous sponsorship from Roche Diagnostics GmbH for this scheme.

Additionally, IFCC is able to offer one other travel scholarship that follow the same rules as specified above:

- Jocelyn Hicks travel scholarship

Chapter 14
IFCC Statutes and Rules

14.1. STATUTES OF THE IFCC

Preamble

Clinical Chemistry and Laboratory Medicine is a clinical specialty that involves the study and application of chemistry, molecular biology and other laboratory sciences to human healthcare. The specialty is applied to maintaining public wellbeing and to the screening of pre-disease or early disease states, diagnosis, staging, monitoring, treatment and management of patients with a wide range of disorders. The scope of the subject matter of this discipline is recognised by several names in various parts of the world (e.g. clinical biochemistry, physiological chemistry, chemical pathology). Included in its scope are the chemical facets of all areas of laboratory medicine. The International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) was formed to advance the science and practice of laboratory medicine throughout the world in the interest of the peoples of the world.
These articles of association were approved by the IFCC Council on June 18, 1972 and amended by the IFCC Council on July13, 1975. They were further reviewed and amended by Council on April 29, 1984, November 14, 1993, in 2003, on July 24, 2005, on June 30, 2013 and on April 01, 2016.

Articles of Association

1. Name and legal domicile

In accordance with the articles set forth hereunder and with articles 60 and following of the Swiss Civil Code, an Association is hereby formed under the name of International Federation of Clinical Chemistry and Laboratory Medicine (hereinafter sometimes referred to as the Federation). The legal permanent domicile of the Federation is Pfaeffikon (Canton Schwyz), Switzerland.

1.1 The International Federation of Clinical Chemistry and Laboratory Medicine exists to address the Purposes stated in 2 below. It operates without the intent of making a profit and all revenue that it earns is ultimately used for its stated Purposes.

2. Purposes

The International Federation of Clinical Chemistry and Laboratory Medicine exists to advance the theory and practice of clinical laboratory science and to further its application in the provision of health services and the practice of medicine. Specific purposes of the Federation include, but are not limited to:

2.1. Establish, encourage and foster high professional standards of clinical laboratory science.

2.2. Promote international cooperation and coordination in the development of clinical laboratory science in matters of research, procedures, materials, regulations and practices, education and training, codes of ethics and related subjects.

2.3. Provide a basis for closer liaison and the free exchange of professional information among clinical laboratory scientists worldwide.

2.4. Sponsor and support International Congresses of Clinical Chemistry and Laboratory Medicine, sponsor and support regional congresses and meetings of international scope and interest.

2.5. Encourage, sponsor and/or conduct studies, prepare recommendations, reference measurement procedures and reference materials, reviews and reports on facets of clinical laboratory science of international interest and concern.

2.6. Provide consultation and advice on facets of clinical laboratory science to all Members of the IFCC, other international and regional societies, states, nations, industries and others concerned with the provision of health services and materials.

2.7. Encourage and assist in the organisation and establishment of new societies concerned with clinical laboratory science.

2.8. Contribute in other ways wherever practical and feasible to the improvement of clinical laboratory science and its services to humanity.

3. Organisation

The International Federation of Clinical Chemistry and Laboratory Medicine is organised with: (1) a Council (Article 5 hereafter) (2) an Executive Board (Article 6 hereafter) and holds General Meetings as provided for under Article 10 hereafter.

4. Membership

4.1. Types of Membership

There are three types of membership - Full Member, Affiliate Member and Corporate Member.

4.1.1. Full Members are drawn from either one established and recognised national society of clinical chemistry or, clinical chemistry and laboratory medicine, or one such organisation in a given geographical area.

4.1.2. Affiliate Members may be admitted from additional organisations or sections of non-member national or regional organisations.

4.1.3. Corporate Members may be admitted from organisations manufacturing products or offering services for the field of clinical laboratory science.

4.2. Application Procedures

4.2.1. Application for Full Membership (4.1.1) shall be presented to the Secretary of the Executive Board. Applications shall be subject to approval by the Council on the recommendation of the Executive Board. Such application shall state that the applicant meets all the following criteria:

4.2.1.1. is an organised society for clinical chemistry, or clinical chemistry and laboratory medicine or other appropriate official organisation that represents the major clinical chemistry, or clinical chemistry and laboratory medicine interests of the country or area.

4.2.1.2. is recognised by a National Research Council, National Academy of Sciences or National Committee, Ministry of Health, or other appropriate official scientific organisation.

4.2.1.3. has officers authorized to act for the society.

4.2.1.4. is composed of persons employed in clinical laboratory science on a professional level.

4.2.1.5. holds regular meetings that include scientific programmes.

4.2.1.6. has as its main objectives the improvement of clinical laboratory services in health care and medicine, the advancement of knowledge and the encouragement of research.

4.2.2. Applications for Affiliate Membership of the IFCC (4.1.2) shall be presented to the Secretary of the Executive Board. The Executive Board shall approve Affiliate Membership following appropriate consultation. Such an application shall state that the applicant meets all the following criteria:

4.2.2.1. is involved in the field of clinical laboratory science and includes persons employed in clinical laboratory science at a professional level.

4.2.2.2. is recognised by a National Research Council, National Academy of Sciences or National Committee, Ministry of Health, or other appropriate official organisation.

4.2.2.3. has officers authorized to act for the Group.

4.2.2.4. holds regular meetings that include scientific programmes.

4.2.3. Application for Corporate Membership (4.1.3.) shall be presented to the Corporate Representative of the Executive Board. Applications for Corporate Membership then require approval by the Executive Board. Applications shall contain details to show that the applicant meets all the following criteria:

4.2.3.1. is engaged in the manufacture of products and/or the provision of services for use in the field of clinical laboratory science.

4.2.3.2. has a commitment to the improvement of clinical laboratory science in health care and medicine, the advancement of knowledge and the encouragement of research.

4.3. Membership in each of the above groups becomes operative from the moment of approval.

4.4. The Council shall decide upon exclusion of Full Member organisations (4.1.1) that no longer conform to the requirements of articles 4.2.1.1. to 4.2.1.6.

4.5. The Executive Board shall decide upon exclusion of Affiliate Members (4.1.2) and Corporate Members (4.1.3) that no longer conform to the requirements of the relevant sections of articles 4.2.2 and 4.2.3.

5. Council

5.1. The supreme body of the Federation shall be a Council which is responsible for the establishment of policy and the overall direction of the Federation. Council may exercise its authority at a meeting or when written submissions are presented to it according to the protocol established below (5.9 to 5.14).

5.2. Full Members constitute the voting members of Council.

5.3. Each Full Member from within its membership will designate by writing to the Secretary a Representative to the Council of the Federation, with full powers to act for the Society in all matters coming before the Council.

5.4. The representatives from Full Members shall be the voting members of Council. An alternate representative may be appointed by a Full Member from within its membership or from the membership of another Full Member. The Secretary must be advised of this appointment in writing by an officer of the Full Member prior to the commencement of the meeting of Council.

5.5. Each Affiliate Member and Corporate Member may designate a non-voting representative to Council.

5.6. The Council shall approve the representative of the Corporate Members on the Executive Board as selected by the Corporate Members.

5.7. The members of the Executive Board of the Federation shall be non-voting members of the Council.

5.8. The Council is presided over by the President or, in his/her absence, by the Secretary

5.9. The Council, at the call of the Executive Board, shall meet in the same period and at the same place as an International Congress of Clinical Chemistry and Laboratory Medicine.

5.10. Extraordinary meetings of the Council may be called by the Executive Board or by one fifth of the voting members by writing to the Secretary.

5.11. At a duly called meeting a quorum of the Council shall consist of a simple majority of all Full Members.

5.12. All formal votes by Council will be conducted by electronic ballot. Face to face meetings of Council will enable Members to discuss matters of policy and general interest and to agree the wording of Motions to be put before Council for electronic voting.

6. Executive Board

6.1. The Executive Board is charged with the day-to-day management of the Federation.

6.2. The Executive Board consists of the President, President Elect, Secretary, Treasurer, one Member elected from each of the Regional Federations (7.5), the immediate Past President and a representative of the Corporate Members. Other individuals may be co-opted as non-voting members at the Executive Board's discretion.

6.3. With the exception of the President Elect the term of office of the elected members of the Executive Board shall be three years and shall start on the first of January following an International Congress of Clinical Chemistry and Laboratory Medicine. With the exception of the President and President Elect members of the Executive Board are eligible for re-election once only for a given office. No individual shall serve for more than six consecutive years excluding years served as Past President.

6.4 The President Elect shall have a term of office of one year commencing on the first of January of the year in which an International Congress of Clinical Chemistry and Laboratory Medicine is held. The President Elect will normally be confirmed as President by the Council and will take up a three-year term of office as described in paragraph 6.3.

6.5 The Past President shall have a term of two years commencing on the first of January following an International Congress of Clinical Chemistry and Laboratory Medicine

6.6. The Executive Board shall ensure the orderly discharge of the functions of the Federation and, in particular, carry out the administrative duties between meetings of Council. The Executive Board shall establish and maintain a set of Rules through which it will accomplish these functions.

6.5. A vacancy on the Executive Board may be filled by the Board. Such an appointment will be subject to ratification by the Council.

7. Regional Federations

7.1 The Federation operates both at global level and also through its Regional Federations

7.2 Regional Federations are established on a geographical basis. The number of Regional Federations will be determined by the Council.

7.3 All IFCC Full Members will also belong to a Regional Federation

7.4 Each Regional Federation has a signed agreement with the Federation in order to specify the terms of reference of the Regional Federation and its working relationship with the Federation

7.5 One Member of the Executive Board is elected from each Regional Federation. The electorate consists of the Full Members, in good standing, who belong to that Regional Federation

8. Affiliated Organisations

At its discretion the Executive Board may designate organisations engaged in the broad field of clinical laboratory science as IFCC Affiliated Organisations. The rights associated with such a designation shall be determined by the Executive Board.

9. The Rights of Members

The Rights of Full Members are determined by Council. The Rights of Affiliate Members and Corporate Members shall be determined by the Executive Board and subjected to approval by Council. These Rights shall be set out in the Rules.

10. General Meetings

10.1. A General Meeting of all interested individuals shall be held at the time and place of sponsored International Congresses of Clinical Chemistry and Laboratory Medicine.

10.2. The General Meeting shall discuss actions, problems, and issues facing the Federation and shall give participants the opportunity to record their recommendations.

11. Dues

The annual dues for the various forms of membership (4. 1) of the Federation shall be fixed by Council. Failure to pay dues by the prescribed date shall lead to a loss of Rights as is set out in the Rules. Council, on the advice of the Executive Board, has the discretion to recognize exceptional circumstances affecting a Member society and has the power to modify dues.

12. Dissolution of the Federation

If the Federation is dissolved, the net assets will be employed to realise the purposes set out in Article 2.

13. Amendments

Proposals of amendments to these articles of association may be presented in writing through the Executive Board to the Council. Such proposals must be proposed by one voting member of Council and seconded by another voting

member. Amendments may also be presented by the Executive Board. Any such proposal must be received six months before a meeting of Council. All amendments require formal approval via an electronic vote of Council.

14.2. RULES OF THE IFCC

1. Voting Procedures Established for Council (Refer to Statute 5.12)

1.1. The voting members of Council are the formal representatives of Full Members (ref. Statutes 5.2 and 5.3). Only those Full Members in good standing are eligible to vote. The determination of those in good standing will be made by the Executive Board. (refer to Rule 6.2.1).

1.2. Each Full Member of good standing shall have one vote. No person shall cast votes on behalf of more than one Member.

1.3. All formal Council votes will be conducted by electronic ballot. Opinion may be sought by a show of hands at a Council meeting but on constitutional matters views expressed at a Council meeting will be subject to confirmation by electronic ballot.

1.4 Advanced notice of at least one month will be given for any electronic vote. The period available for voting will be one month from the opening to the closure of the ballot.

1.5 The electronic ballot for President, Secretary and Treasurer will be conducted by ballot of all IFCC Full Members. Nominations for all positions will be submitted at least four months ahead of each Council Meeting. The election of the President, Secretary and Treasurer will take place at least three months before each Council Meeting. The results of this election will be communicated to Members by electronic mail at least two months before the Council Meeting.

1.6 Voters will be presented with a list of named candidates for the election of IFCC. Officers. A short personal statement from each candidate will be distributed by IFCC before the ballot opens. This personal statement will include confirmation that the candidate has the support of his/her national society Member of IFCC.

1.7 If only one valid nomination is received for a vacant position then the nominee will be appointed without the need for a confirmatory ballot. The name and nationality of the appointed person will be included on the ballot paper for information.

1.8 The IFCC Full Members in each of the Regional Federations will elect one Member to serve on the Executive Board. Regional Federation elections should be concluded in time to allow the elected Member of the Executive Board to be announced at the IFCC Council meeting.

1.9 The Corporate Member Representative on the Executive Board will be elected by electronic or mail ballot of the Corporate Members. Nominations will be sought at least four months before a Council meeting and the ballot will be concluded at least two months before the Council meeting.

1.10 The electronic ballot for President Elect will take place at least three months prior to the end of the second year of the three year term of office of each Executive Board. The result of this election will be communicated to Members by electronic mail at least two months before the end of the same year.

1.11 In the case of a casual vacancy during the normal Executive Board term, nominations will be solicited from the Membership and an electronic ballot will be conducted one month later (refer to Statute 6.7).

1.12 Council may be invited to vote on other issues at any time. The results of occasional elections will be communicated to Members of IFCC by electronic mail within one month of the conclusion of the ballot (refer to Statute 5.12)

1.13 For ballots that involve the election of persons to positions other than to the Executive Board or to other representative positions voters will be presented with a list of options. A short explanation of the ballot and each of the options will be distributed before the opening of the ballot.

1.14 Under the Alternative Voting System voters express their preferences across the range of candidates or options, using a '1' for their first preference, a '2' for their second preference and so on until all candidates or options have been considered. Voters may express as many or as few preferences as they wish.

1.15 Counting of the votes under the Alternative Voting System follows strict rules. It begins with a count of all first preference votes. If one candidate or option achieves more than 50% of first preference votes that candidate or option is declared the winner.
If no candidate or option achieves more than 50% of first preference votes then the candidate or option that received the least number of votes is eliminated. The voters who had given their first preference vote to the eliminated candidate or option now have their second preference votes allocated to the remaining candidates and the number of votes is again recorded. If one candidate or option achieves more than 50% of first preference, and second preference votes from the eliminated candidate, that candidate or option is declared the winner.
This process of reallocating lower preference votes from eliminated candidates or options continues until one candidate or option achieves more than 50% of eligible votes.

1.16 Electronic elections will be conducted through an independent electoral company. Once the ballot has opened no IFCC Officer or member of staff will be able to view or influence the progress of the ballot until the result is announced by the electoral company.

2. Rights of Full Members

2.1. Membership
The representatives from Full Members shall be the Voting Members of Council. A different representative to Council may be appointed by a Full Member from within its membership, with full powers to participate and vote on Council matters. The IFCC Secretary and IFCC Office must be advised in writing of this appointment, at least one month before the commencement of Council elections (refer to Statute 5.3). Exceptions will only be made in highly unusual cases. These will have to be ratified by the Executive Board.

2.2. Documentation
2.2.1. Representatives of Full Members will receive copies of all documents and publications distributed by the IFCC. They are also available on the IFCC website (www.ifcc.org)
2.2.2. Representatives of Full Members are responsible for providing their

Societies formal responses and comments on these documents to the Executive Board or the specifically designated Division or Committee.

2.2.3. Full Member representatives are the official conduit from the Member Societies for bringing relevant matters regarding the profession of clinical chemistry and laboratory medicine to the attention of the IFCC.

2.3. Meetings

2.3.1. Full Members are eligible to hold an international or regional congress of clinical chemistry and laboratory medicine.

2.3.2. Full Members may seek support from the IFCC for international, regional, national or local meetings. The IFCC may grant either its auspices or sponsorship where appropriate (see Congress guidelines).

2.4. Representation in Divisions, Committees and Working Groups

2.4.1. Each Full Member is entitled to nominate members of Division Executive Committees, Committees and Working Groups. The appointments for the Division Executive Committee membership and the Committee's Chairs lie with the IFCC Executive Board on the recommendation of the appropriate Division Chair. Members of Committees and Working Groups are appointed by the respective Division Executive Committee.

2.4.2. Each Full Member is entitled to appoint a corresponding member to every Committee and Working Group.

2.5. Other rights

2.5.1. Full Members are entitled to apply to host an IFCC Visiting Lecturer, through the Visiting Lecture Programme.

2.5.2. Full Members are entitled to describe themselves as such in their publications and other promotional material.

2.5.3. A group working on a specific topic for a Full Member or several such Members may be recognised formally as an IFCC Working Group.

2.5.4. Full Members may submit a project proposal.

2.5.5. Additional rights may be determined by the Executive Board subject to ratification by Council.

3. Rights of Affiliate Members

3.1. Membership

3.1.1. Each Affiliate Member will designate in writing to the Secretary a representative to the Council of the Federation, with powers to act for the relevant group in all matters coming before the Council (refer to Statute 5.4).

3.1.2. The representatives from Affiliate Members shall be non-voting members of Council. An alternate representative to Council may be appointed by an Affiliate Member with power to act for the relevant group if the representative is unable to attend Council. The Secretary must be advised in writing of this appointment at least one month prior to the Council.

3.1.3. The representatives can propose or second motions in Council and can participate in its discussions (refer to. Rule 1.9).

3.2. Documentation
3.2.1. Representatives of Affiliate Members will receive copies of all documents and publications distributed by the IFCC.
3.2.2. The Affiliate Member is entitled to submit formal comments on IFCC documentation.
3.2.3. Representatives of Affiliate Members are the official conduit from the member groups and are responsible for bringing matters regarding the profession of clinical chemistry and laboratory medicine to the attention of the IFCC.

3.3. Other rights
3.3.1. Affiliate Members are entitled to describe themselves as such in their publications and other promotional material.
3.3.2. An Affiliate Member may submit a project proposal.
3.3.3. Additional rights may be determined by the Executive Board.

4. Rights of Corporate Members

4.1. Membership
4.1.1. Each Corporate Member will designate in writing to the Secretary a representative to the Council of the Federation, with power to act for the Corporate Body in all matters coming before the Council (refer to Statute 5.4).
4.1.2. The representatives from the Corporate Members shall be non-voting members of Council. An alternative representative to Council may be appointed by a Corporate Member with power to act for the Corporate Body when the representative is unable to attend Council. The Secretary must be advised in writing of this appointment at least one month prior to the Council.
4.1.3. The representative can propose or second motions in Council and can participate in its discussions (refer to Rule 1.9).

4.2. Documentation
4.2.1. Representatives of Corporate Members will receive copies of all documents and publications distributed by the IFCC.
4.2.2. The Corporate Member is entitled to submit formal comments on IFCC documentation.
4.2.3. Representatives of Corporate Members are the official conduit from the member Corporate Bodies and are responsible for bringing matters regarding the profession of clinical chemistry to the attention of the IFCC.

4.3. Meetings
4.3.1. Corporate Members may seek support from the IFCC for relevant meetings (see Congress guidelines).

4.4. Representation in Divisions, Committees, and Working Groups.
A Corporate Representative as a member of a Division or a Committee is entitled to reimbursement of expenses for attending scheduled meetings according to the IFCC reimbursement policy.
4.4.1. Corporate Members are entitled to nominate a representative for the Division Executive Committees. The final appointment of this Division Corporate Representative lies with the Executive Board based on the nomination of the Division chair.
4.4.2. Each Corporate Member is entitled to appoint Corresponding Members to every Division Committee or Working Group.

4.5. Other rights

4.5.1. Corporate Members are entitled to describe themselves as such in their publications and other promotional material.

4.5.2. Corporate Members may participate in the selection process for the Corporate Representative on the Executive Board and the Division Executive Committees.

4.5.3. Corporate Members are entitled to use the IFCC logo on exhibits or when making presentations at meetings.

4.5.4. Each Corporate Member may submit a project proposal.

4.5.5. Additional rights may be determined by the Executive Board.

5. Rules Governing the Payment of Dues (refer to Statute 11)

5.1. Dues

5.1.1. The financial year of the Federation is January 1st to December 31st.

5.1.2. The Swiss Franc is the currency of the IFCC.

5.1.3. The dues payable for each category of membership are determined by Council which may delegate this responsibility to the Executive Board for recommending the level at which the dues should be set.

5.2. Non-payment of dues

5.2.1. If dues are not paid by a Full Member for one year without a satisfactory explanation being offered in writing to the Treasurer, voting rights are withdrawn automatically. The Treasurer will inform Members who are likely to lose their voting rights six months prior to the Council meeting. To avoid this, their dues must be paid no later than two months prior to the Council meeting.

5.2.2. If dues are not paid for two years, the rights of a member of any class are suspended automatically. Suspended members will no longer be sent IFCC correspondence or other information. The Treasurer will inform Members who are likely to lose their voting rights six months prior to the Council Meeting. To avoid this, the dues for two years must be paid no later than two months prior to the Council meeting.

5.2.3. In the case where a Member organisation is unable to pay the full dues for reasons beyond its control, a temporary revised fee structure may be determined by the Executive Board. Such an action requires that the organisation provides the President or Treasurer with a written statement of the circumstances and the action is subject to ratification by Council.

5.2.4. Rights of membership are restored on receipt of payment of dues at a level deemed appropriate and acceptable by the Executive Board.

5.2.5. Where membership in any class has lapsed because of non-payment of dues, readmission may be sought by submitting a new formal application for membership.

5.2.6. After three years of non-payment, it would be proposed to Council that the National Society no longer be a member.

6. Nomination Process

The Executive Board is elected by Council and the procedures described below are to ensure a fair and democratic process for this election.

6.1. The Executive Board shall appoint a Nominations Committee at least 2 years prior to the beginning of a new triennium. The Nominations Committee shall consist of no fewer than five individuals knowledgeable about the field of

clinical laboratory science and the workings of the IFCC. The membership also should reflect the broad geographic diversity of the IFCC and shall include both the Chairman of the immediate previous Nominations Committee and the immediate Past President of the IFCC.

6.2. The Nominations Committee shall solicit suggestions for candidates for each position on the Executive Board (except the Corporate Representative), from Full Members of the IFCC. The Nominations Committee shall establish an appropriate deadline by which all nominations must be received. For each position on the Executive Board (except the President Elect and the Corporate Representative) the deadline shall be at least six months before the Council meeting. For the President Elect the deadline shall be at least six months before the year in which he/she will commence office.

6.2.1. Each nominee for office shall give written consent and provide consent of their National Society to indicate acceptance of office if they were to be elected. The nominees National Society is defined as the IFCC member for the country in which the nominee spends the majority of their time working in Laboratory Medicine. Only members of Full Members in good standing at the time of solicitation are eligible for consideration.

7. Regional Federations

7.1 The Regional Federations of IFCC will comprise:

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

7.2 Each Regional Federation will have a governance structure including an Executive Board/Committee that is elected by the Members of that Regional Federation

7.3 Each Regional Federation will have a written agreement with IFCC, which sets out the terms of reference of the Regional Federation, its operation and its working relationship with IFCC. This agreement will be reviewed and updated on a scheduled basis

7.4 Regional Federations may receive an annual donation from IFCC to assist their operation. Regional Federations will inform the Federation Treasurer of the ways in which this money has been used. Regional Federations may also raise and spend money independently of IFCC. In such circumstances the Regional Federations will submit annual audited accounts to IFCC

7.5 The IFCC Full Members in each Regional Federation will elect one Member to serve on the IFCC Executive Board. Elections will be conducted in line with guidance agreed between the Regional Federations and the IFCC Executive Board. The Regional Federations will use the IFCC Office to oversee the elections, including the same electronic voting system that is used to elect the IFCC Officers.

Chapter 15
IFCC Finances

15.1. Organisation of Finances

All IFCC activities are financed through the IFCC Treasury, which is under the direct supervision of the IFCC Treasurer. The Treasurer is advised by the Financial Advisory Committee and assisted by staff in the IFCC Office.
The Executive Board has overall responsibility for the financial wellbeing of IFCC. The Executive Board discharges this responsibility by agreeing an annual budget and by considering actual performance against that budget through regular management accounts. The IFCC financial year coincides with the calendar year. Formal IFCC accounts are prepared annually and subject to external audit. A copy of the latest set of audited accounts is available to IFCC Members on written request to the Treasurer.
The legal domicile of the Federation is in Switzerland and therefore all formal financial transactions and formal accounts are carried out in Swiss Francs (CHF). However, to minimise the loss on exchange rates and to facilitate efficient and timely processing of financial matters the Treasury is able to operate bank accounts in currencies other than Swiss Francs. The Treasury receives expert advice on investments from an international investment bank.

15.2. Budget

The annual budget is agreed by the Executive Board at its final meeting of the preceding year. The Chairs of IFCC Divisions are normally invited to attend and participate in the preparation and adoption of the budget. Whilst the Executive Board collectively has responsibility for monitoring expenditure against budget individuals members are charged with responsibility for monitoring sections of the budget.

15.3. Income and Expenditure

15.3.1. Income

Although the Federation has no category of individual personal membership, the annual contributions from the Full Member Societies are based on their number of individual members.
Corporate Members also contribute significantly to the Federation and their dues are based on the world-wide turnover of the company's business in the field of Clinical Chemistry and Laboratory Medicine. Affiliate Members pay modest membership dues to IFCC.
Congresses sponsored by the IFCC make valuable contributions to the revenue of the Federation, On occasions IFCC receives grants from various sources for special assignments. Corporate Members sponsor IFCC activities, including the Visiting Lecture Programme, various conferences and workshops.
Careful investment of the reserve funds has become an important source of income.

15.3.2. Expenditure

All of the scientific and much of the administrative work carried out for IFCC is provided on a voluntary basis, and the financial value of resources put into IFCC by individuals does not show in the accounts of the Federation.
Without this indirect and significant support from the Clinical Chemistry and Laboratory Medicine community, the work of IFCC would not be possible.
Much of the scientific and administrative work of IFCC is carried out by e-mail and conference calls, but occasional meetings are necessary. Travel costs are reimbursed

and these represent a significant expenditure since it is general policy to select specialists from many different countries, reflecting the international quality of the Federation.
The cost of meetings is an important part of the budget setting process.
IFCC also spends money on a variety of special projects. Broadly speaking these projects either support members or they fulfil the role of IFCC in promoting high scientific standards in the worldwide practice of Clinical Chemistry and Laboratory Medicine. Finance for all projects is budgeted in advance. The nature of these projects is identified, together with expenditure, in the annual accounts.
The IFCC Office and its activities are supported from its own resources identified in the annual budget.

15.4. Annual Dues

The financial amount of annual dues is normally fixed for three years by the IFCC Council. The IFCC Office invoices Full Members, Corporate Members and Affiliate Members on an annual basis. Members that default on payment of dues are considered by the Executive Board. Sanctions for the persistent non-payment of dues are explained in the IFCC Rules (Chapter 14.2).

15.5. Guidelines for Industry Support

IFCC Corporate Members pay an annual subscription. IFCC also collaborates with its Corporate Members on projects that aim to advance knowledge and/or improve the quality of clinical laboratory science in health care and medicine. As part of this collaboration the Corporate Members may provide designated sponsorship. IFCC will not accept industry sponsorship for an overtly commercial project that involves IFCC promoting the interests of an individual company.

15.6. Income from Congresses

IFCC sponsors a number of scientific congresses. WorldLab Congress is subject to a contract between IFCC, the host national society and the professional conference organiser employed to deliver the congress. The EuroMedLab Congress is subject to a contract between IFCC, EFLM, the host national society and the professional conference organiser employed to deliver the congress. One component of that contract is the financial basis upon which IFCC derives income from sponsorship of the congress. IFCC may also derive income from Regional Congresses under the terms of the agreement between IFCC and the Regional Federations.
Specialised conferences that are supported by IFCC are normally subject to a contract between IFCC and a Corporate Member sponsor.

15.7. Financial Advisory Committee

The Financial Advisory Committee meets when required. The Minutes of the Financial Advisory Committee are considered by the Executive Board.
The IFCC Treasurer chairs the Financial Advisory Committee. The President, Past-President and the Representative of the Corporate Members are members. For the period 2015-2017 members of the Financial Advisory Committee are:

Treasurer, Chair
Professor Tomris OZBEN
Akdeniz University
Medical Faculty
Department of Clinical Biochemistry
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Chapter 16
Organisational Matters

16.1. IFCC Office

The IFCC Office is the unit of the IFCC responsible for carrying out, under the direction of the EB and in conjunction with Division and Committee members, the administrative and communication activities of the Federation. The IFCC Office reports to the EB through the Secretary.

The IFCC Office is the administrative centre of the IFCC, and maintains the Archives of the organisation. The IFCC Office is responsible for day to day financial operations such as: billing members for dues, controlling of claims, accounting of income and expenditures, quarterly budget report to the EB. It is also responsible for all contacts with Member societies for official communications sent to the Members by the Executive Board and its officers. The IFCC Office is responsible for most of the daily and organisational matters and is the point of contact for all IFCC activities. The IFCC Office has responsibilities for supporting the Executive Board, Division Executives and Committees, for maintaining the IFCC website and for all relevant documentation. The IFCC Office also supports the organisation of some IFCC Conferences. The IFCC Office is staffed by three employees, and other staff as required.
The IFCC Office is located within the premises of MZ Congressi, Milan, Italy, which is the professional congress organizer (PCO) for the IFCC.

The IFCC Office address is:
Via Carlo Farini 81
20159 Milan, Italy
E-mail: ifcc@ifcc.org
IFCC website: www.ifcc.org

16.3. Nominations Committee

16.3.1. Summary

The Executive Board creates an ad hoc Nominations Committee (NC) and appoints the Chair. This occurs every third year with the Committee being appointed two years prior to the next Council meeting. It is the responsibility of the NC to invite, receive and process nominations for the next Executive Board. To do so, the NC solicits suggestions for candidates for each position on the Executive Board (except the Past-President and Corporate Representative), from Full Members of the IFCC and from key individuals within the management structure of the IFCC. The NC then recommends a slate of candidates consisting of one or more persons for each vacancy. Also, the candidates must be nominated by the Association of the country where the candidate works, and not by another Association of which they are a member.
The Nominations Committee will conduct this activity independent of the current Executive Board (whose members may be seeking re-election). Also, it will establish an appropriate deadline by which all nominations must be received. The NC does not function as a “Search Committee” and has no long-term role in “human resource development” or “succession planning”.
The election for the new EB will be conducted by electronic ballot and the result will be announced at the meeting of Council prior to the IFCC WorldLab 2020 meeting in Seoul.

16.3.2. Members

Name	Position	Country	Term	Time in Office
To be nominated	*Chair*			
M. Ferrari	Past President	IT	1st	2018 01-2020 12
B. Gouget	Past Chair NC	FR	1st	2018 01-2020 12
To be nominated	*Member*			
To be nominated	*Member*			

16.3.3. List of Addresses

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16.4. Annual Report

The IFCC Annual Report is an important document. It is prepared at the beginning of each calendar year as a summary of the past year's activities. It is compiled by the Secretary of IFCC from the reports of the respective IFCC Officers, National Societies and Regional Federations. The IFCC Annual Report gives National Societies an opportunity to report their activities to other member societies. These reports are a part of the IFCC Annual Report, which is available in the IFCC website www.ifcc.org . The IFCC Annual Report is also published in Lab Medica International as a short version without the reports of the National Societies.

16.5. IFCC Handbook

The production of the IFCC Handbook occurs once every three years and coincides with the term of the Executive Board. It is available from the IFCC website (www.ifcc.org). The Handbook gives all the information about the operations and activities of IFCC.

The Handbook includes a section on the organisation of IFCC, its aims and strategic objectives over the three-year term of the Executive Board. The Handbook lists IFCC Regional Organizations, Divisions, Committees, Working Groups and Task Forces, IFCC programmes and projects. The Full Members, Corporate Members and Affiliate Members are also included with the names and addresses of their contact persons. The Statutes and Rules of the IFCC are the basis of its operations and they are also published in the Handbook. The Handbook is intended to give basic information on IFCC and its operation and to help readers to find contacts with laboratory experts involved in IFCC activities.

16.6. IFCC Procedures Manual

The IFCC Procedure Manual is a document which details the procedures for all the IFCC activities. It helps new IFCC officials learn about how IFCC operates. This document is available for the IFCC officers only.

16.7. Project Proposal Forms

Proposals for new projects must be submitted on a Project Proposal Form that can be requested to the IFCC Office (ifcc@ifcc.org)

16.8. IFCC Numbering System

The IFCC uses a numerical system for all its official correspondence. This numbering system is also used for storing and archiving IFCC records. The numbering system is continually updated with new activities. The system at the time of preparing this Handbook was as follows.

1. Minutes of EB meetings

1.1. Minutes

1.1.80. Rabat 2000
1.1.81. Captiva Island 2000
1.1.82. Dubrovnik 2001
1.1.83. Prague 2001
1.1.84. Milan 2001
1.1.85. Vienna 2002
1.1.86. Orlando 2002
1.1.87. Kyoto 2002
1.1.88. Vienna 2003
1.1.89. Barcelona 2003
1.1.90. Milano 2003
1.1.91. Sousse 2004
1.1.92. Perth 2004
1.1.93. Milano 2004
1.1.94. Vienna 2005
1.1.95. Orlando 2005
1.1.96. Milano 2005
1.1.97. Paraguay 2006
1.1.98. Chicago 2006
1.1.99. Milano 2006
1.1.100. Washington 2007
1.1.101. Amsterdam 2007
1.1.102. Beijing 2007
1.1.103. Antalya 2008
1.1.104. Fortaleza 2008
1.1.105. Milano 2008
1.1.106. Windsor 2009
1.1.107. Milano 2009
1.1.108. Innsbruck 2009
1.1.109. Milano 2009
1.1.110. Corfu 2010
1.1.111. Seoul 2010
1.1.112. Paris 2011
1.1.113. Berlin 2011
1.1.114. Milano 2011
1.1.115. Milano 2012
1.1.116. Windsor 2012
1.1.117. Marrakech 2012
1.1.118. Kuala Lumpur 2012
1.1.119. Buenos Aires 2013
1.1.120. Milan 2013
1.1.121. Bali 2013
1.1.122. Washington 2014

1.1.123. Istanbul 2014
1.1.124. Rome 2014
1.1.125. Milan 2015
1.1.126. Paris 2015
1.1.127. Quito 2015
1.1.128. Madrid 2016
1.1.129. Philadelphia 2016
1.1.130. Taipei 2016
1.1.131. Milano 2017
1.1.132. Athens 2017
1.1.133. Durban 2017
1.1.134. Milano 2018
1.1.135. Rome 2018
1.1.136. Budapest 2018

2. Full Members

2.1. Member Societies

2.1.2. Argentina
2.1.3. Australia and New Zealand
2.1.4. Austria
2.1.5. Belgium
2.1.6. Brazil
2.1.7. Bulgaria
2.1.8. Canada
2.1.9. Chile
2.1.10. Colombia
2.1.11. Albania
2.1.12. Denmark
2.1.13. Ecuador
2.1.14. Egypt
2.1.15. Germany
2.1.16. Finland
2.1.17. France
2.1.19. Hungary
2.1.20. Iran
2.1.21. Ireland
2.1.22. Israel
2.1.23. Italy
2.1.25. Japan
2.1.26. Kenya
2.1.27. Luxembourg
2.1.29. Morocco
2.1.30. Netherlands
2.1.31. Croatia
2.1.32. Nigeria
2.1.33. Norway
2.1.34. Poland
2.1.36. Singapore
2.1.37. South Africa
2.1.38. Spain
2.1.39. Sweden
2.1.40. Switzerland

2.1.41. Syria
2.1.43. United Kingdom
2.1.44. United States
2.1.46. Serbia
2.1.47. Indonesia
2.1.49. Hong Kong
2.1.50. China - Taipei
2.1.51. Iceland
2.1.52. Korea
2.1.54. Vietnam
2.1.55. India
2.1.56. Cuba
2.1.57. Tunisia
2.1.58. Czech Republic
2.1.59. Slovak Republic
2.1.60. Guatemala
2.1.61. Latvia
2.1.62. Slovenia
2.1.63. Thailand
2.1.64. Greece
2.1.66. Paraguay
2.1.67. Jordan
2.1.68. Russia
2.1.69. Uruguay
2.1.70. Lithuania
2.1.71. Romania *
2.1.72. Turkey
2.1.73. Malaysia
2.1.75. China - Beijing
2.1.76. Dominican Republic
3.1.77. Lebanon
2.1.78. Honduras
2.1.80. Estonia
2.1.82. Portugal
2.1.83. Pakistan
2.1.84. Bosnia Herzegovina
2.1.85. Cyprus
2.1.86. Montenegro
2.1.87. Sri Lanka
2.1.88. Ukraine**
2.1.89. Sudan
2.1.90. Peru
2.1.91. Ethiopia
2.1.92. Philippines
2.1.93. Algeria
2.1.94. Nepal
2.1.95. Zimbabwe
2.1.96. Kazakhstan
2.1.97. Zambia
2.1.98. Bolivia
2.1.99. Mexico
2.1.100. Macedonia

2.1.101. Saudi Arabia
2.1.102. Malawi
2.1.103. Kosovo
2.1.104. Belarus
2.1.105. Palestine
2.1.106. Panama

*merged with Affiliate ALMR
**merging Affiliate/Full Member USCLD

2.2 Applications

2.3 Withdrawal - Suspended Members

2.1.81. Costa Rica

2.4. Annual Dues

2.9. Ballots for Membership

3. Corporate Members

3.1. Current Members

3.1.1. Abbott
3.1.2. Asahi Kasei Pharma Corporation
3.1.6. Beckman Coulter, Inc.
3.1.13. DiaSys Diagnostic Systems GmbH
3.1.15. Sekisui Diagnostics (UK) Ltd.
3.1.21. Ortho-Clinical Diagnostics, Inc.
3.1.29. Radiometer Medical ApS
3.1.30. Randox Laboratories Ltd.
3.1.31. Roche Diagnostics
3.1.34. Sebia S.A.
3.1.36. Fujifilm Wako Pure Chemical Corporation
3.1.45. Thermo Fisher Scientific
3.1.48. HyTest Ltd.
3.1.53. A. Menarini Diagnostics
3.1.54. Sysmex Europe GmbH
3.1.55. BD Life Sciences – Preanalytical Systems
3.1.57. Bio-Rad Laboratories
3.1.58. Mitsubishi Chemical Europe GmbH
3.1.60. Analis R&D Diag
3.1.61. The Binding Site Group, Ltd.
3.1.66. Siemens Healthcare Diagnostics
3.1.68. Gentian AS
3.1.69. Sentinel CH. Spa
3.1.70. Agappe Diagnostics Ltd.
3.1.71. Sichuan Maccura Biotechnology Co., Ltd.
3.1.77. Mindray - Shenzhen Mindray Bio-Medical Electronics Co., Ltd.
3.1.78. Nova Biomedical Corporation
3.1.81. C.P.M. Diagnostic Research SAS
3.1.82. Oneworld Accuracy Collaboration
3.1.83. Labor Dr. Wisplinghoff
3.1.86. PPD Inc.
3.1.89. ADx Neurosciences

3.1.88. Shanghai Zhicheng Biological Technology Co, Ltd
3.1.90. Snibe Co., Ltd
3.1.91. Fujirebio Europe
3.1.92. Diatron
3.1.93. Guangzhou Wondfo Biotech Co. Ltd.
3.1.95. Helena Biosciences Europe
3.1.96. MedicalSystem Biotechnology Co., Ltd.
3.1.97. Shanghai Kehua Bio-Engineering Co., Ltd.
3.1.98. Beijing Dream Diagnostics Medicine (DDM) Technology Co. Ltd.
3.1.99. Hemas Hospitals (PVT) Ltd.
3.1.100 Timedico A/S

3.2. Applications

3.3. Withdrawals – Suspended Members

3.1.4. Axis Shield Point of Care Division
3.1.38. Wiener Lab
3.1.62. Response Biomedical Corporation
3.1.73. Biocrates Life Sciences AG
3.1.74. Unilabs
3.1.75. Philips
3.1.80. Merck Millipore
3.1.85. ELGA
3.1.87. Instrumentation Laboratory
3.1.94. Sonic Healthcare Europe

3.4. Annual Dues

3.5. Guidelines and Rules

3.40. Other Business

4. Affiliated Members

4.1. Current Members

4.1.1. Asociación Española de Farmacéuticos Analístas (AEFA)
4.1.3. Regional Association for Clinical Laboratory Diagnosis, St. Petersburg
4.1.5. Sociedade Brasileira de Patologia Clinical / Medicina Laboratorial (SBPC/ML)
4.1.9. Philippine Council for Quality Assurance in Clinical Laboratories (PCQACL)
4.1.10. Association of Clinical Chemistry and Laboratory Medicine of Ukraine (ACCLMU)
4.1.11. Association of Medical Biochemists of India (AMBI)
4.1.12. Federación Nacional de Químicos Clínicos (CONAQUIC A.C.)
4.1.13. Society of Clinical Biochemistry Specialists (KBUD) - Turkey
4.1.14. Iranian Association of Clinical Laboratory Doctors
4.1.15. Nepalese Association for Clinical Chemistry (NACC)
4.1.16. Society for Medical Technology & Laboratories - Jordan
4.1.17. Association for Quality Assurance of Laboratory Medicine – AQALM – Ukraine
4.1.18. Lab Medicine Committee, China Association of Medical Equipment
4.1.19. Egyptian Association of Healthcare Quality and Patient Safety

4.2. Applications

4.3 Withdrawals - Suspended Members

4.1.8. Palestinian Medical Technology Association (PMTA) – now Full Member 2.1.105

4.4. Annual Dues

4.40. Other Business

5. Organizations (Regional) Affiliated with IFCC

5.1. Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)

5.2. Latin American Confederation of Clinical Biochemistry (COLABIOCLI)

5.4. European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)

5.5. Arab Federation of Clinical Biology (AFCB)

5.6. African Federation of Clinical Chemistry (AFCC)

5.7. North American Federation of Clinical Chemistry (NAFCC)

5.40. Other Business

6. International/Regional Organisations

6.1 World Health Organisation (WHO)

6.1.1. Special Programme of Research, Development and Research Training in Human Reproduction (HRP)

6.1.2. WHO Regional Office for Europe

6.1.3. Pan American Health Organization (PAHO)

6.2. Clinical Laboratory Standards Institute (CLSI) (formerly NCCLS)

6.3. United Nations Organization (UN)

6.4. International Union of Pure and Applied Chemistry (IUPAC)

6.6. International Union of Immunological societies (IUIS)

6.7. International Union of Biochemistry and Molecular Biology (IUBMB)

6.8. Council of International Organisations of Medical Sciences (CIOMS)

6.9. World Medical Association (WMA)

6.10. International Society for Haematology (ISH)

6.10.1. International Committee for Standardization in Haematology (ICSH)

6.11. International Council for Science (ICSU)

6.12. International Pharmaceutical Federation (FIP)

6.13. World Association of Societies of Pathology and Laboratory Medicine (WASPALM)

6.14. International Union of Basic and Clinical Pharmacology (IUPHAR)

6.15. International Organization of Legal Metrology (OIML)

6.18. Asian Pacific Committee for Clinical Laboratory Standards (APCCLS)

6.22. Bureau International des Poids et Mesures (BIPM)

6.23. International Standards Organization (ISO)
- 6.23.1. Technical Advisory Groups (ISO-TAG)
- 6.23.2. Committee on Reference Materials (ISO-REMCO)
- 6.23.3. Forum for Inter-Organisational Cooperation in Metrology (FICOM)

6.26. Japanese Committee for Clinical Laboratory Standards (JCCLS)

6.30. European Committee for Standardization (CEN)

6.31. European Commission Joint Research Centre (EC-JRC)

6.33. National Institute for Biological standards and Control (NIBSC)

6.37. National Institute of Standards (NIST)

6.38 International Consortium for Harmonization of Clinical Laboratory Results (ICHCLR)

7. Congresses and Conferences Committee

7.1. Congresses and Conferences Executive Committee
- 7.1.1. Mission Statement
- 7.1.2. Strategy
- 7.1.3. Projects

7.2. International Congresses of Clinical Chemistry and Laboratory Medicine (ICCCLM)
- 7.2.1. 1954 - Amsterdam
- 7.2.2. 1956 - New York
- 7.2.3. 1957 - Stockholm
- 7.2.4. 1960 - Edinburgh
- 7.2.5. 1963 - Detroit
- 7.2.6. 1966 - Munich
- 7.2.7. 1969 - Geneva
- 7.2.8. 1972 - Copenhagen
- 7.2.9. 1975 - Toronto
- 7.2.10. 1978 - Mexico City
- 7.2.11. 1981 - Vienna
- 7.2.12. 1984 - Rio de Janeiro
- 7.2.13. 1987 - Den Hague
- 7.2.14. 1990 - San Francisco
- 7.2.15. 1993 - Melbourne
- 7.2.16. 1996 - London
- 7.2.17. 1999 - Florence
- 7.2.18. 2002 - Kyoto
- 7.2.19. 2005 - Orlando
- 7.2.20. 2008 - Fortaleza
- 7.2.21. 2011 - Berlin
- 7.2.22. 2014 - Istanbul
- 7.2.23. 2017 - Durban
- 7.2.24. 2020 - Seoul
- 7.2.25. 2023 - Rome

7.3. Regional Congresses of Clinical Chemistry and Laboratory Medicine

7.3.1. Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)

7. 1995 - Bangkok
8. 1998 - Kuala Lumpur
9. 2001 - New Delhi
10. 2004 - Perth
11. 2007 - Beijing
12. 2010 - Seoul
13. 2013 - Bali
14. 2016 - Taipei
15. 2019 - Jaipur

7.3.2. European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)

11. 1995 - Tampere
12. 1997 - Basel
13. 1999 - Florence
14. 2001 - Prague
15. 2003 - Barcelona
16. 2005 - Glasgow
17. 2007 - Amsterdam
18. 2009 - Innsbruck
19. 2011 - Berlin
20. 2013 - Milano
21. 2015 - Paris
22. 2017 - Athens
23. 2019 - Barcelona
24. 2021 - Munich
25. 2023 - Rome

7.3.4. Latin American Confederation of Clinical Biochemistry (COLABIOCLI)

12. 1995 - Buenos Aires
13. 1997 - Caracas
14. 1999 - Puerto Rico
15. 2001 - Florianopolis
16. 2003 - San José
17. 2005 - Asunción
18. 2008 - Panama
19. 2010 - Santiago del Chile
20. 2011 - Punta Cana
21. 2013 - Lima
22. 2015 - Quito
23. 2017 - Punta del Este
24. 2019 - Panama

7.3.6. Arab Federation of Clinical Biology (AFCB)

9. 2000 - Rabat
10. 2004 - Monastir
11. 2006 - Damascus
12. 2009 - Beirut
13. 2012 - Marrakech
14. 2015 - Khartoum
15. 2018 - Palestine

7.3.7. African Federation of Clinical Chemistry (AFCC)

1. 2009 - Ibadan
2. 2011 - Nairobi
3. 2013 - Cape Town
4. 2015 - Harare
5. 2017 - Durban

7.4. IFCC Specialised Conferences

7.4.1. Roche Bergmeyer Conferences

1. 1988 - Principles of Assays in Medical Sciences
2. 1989 - Laboratory Measurements in Lipid Disorders
3. 1990 - Immunoassay Standardisation
4. 1992 - Two Immunoassay Reference Systems: Cortisol and Human Chorionic Gonadotrophin
5. 1994 - Tumor Markers: Current Status and Future Trends
6. 1996 - Biochemical Markers for Bone Diseases: Current Status and Future Trends
7. 1999 - Biochemical Markers for Myocardial damage: Current Status and Future Trends
8. 2001 - Biochemical Markers for Autoimmune Diseases: Current Status and Future Trends
9. 2003 - Nucleic Acid Markers for Bacterial and Viral Infections in Intensive Care and Immunocompromised Patients
10. 2005 - Diabetes Mellitus & Cardiovascular Disease
11. 2008 - Markers of Kidney Disease
12. 2010 - Novel biomarkers: From Discovery to Clinical Application
13. 2012 - Vitamin D in Health and Disease
14. 2014 - Women's Health
15. 2016 - Biomarkers in the Diagnosis and Monitoring of Cancer

7.4.2 European Beckman Coulter Molecular Basis of Diseases

1. 1998 - Inflammatory Diseases
2. 2000 - Cell Biology of Neuronal Dysfunction

7.4.3. Roche Molecular Biology

1. 1998 - Recent Progress in Molecular Biology Technology
2. 2000 - Validating and Using Pharmocogenetics

7.4.5 Beckman Coulter Proteins

1. 2001 - Prague
2. 2003 - Barcelona

7.4.6. Ortho Clinical Diagnostics Conference

1. 2008 - Birmingham - Biochemical markers in clinical cardiology: perspectives from present to future
2. 2011 - Paris - Pregnancy-related disorders

7.4.7. Siemens Conference

1. 2014 - Toronto - Biomarkers in Neuropsychiatric Disorders

7.4.8. Roche Conference

1. 2014 - Rome - Biomarkers in Alzheimer Disease
2. 2016 - Mexico City - Biomarkers in Alzheimer Disease

7.4.9. Mediterranean Conference.

1. 2018 - Rome - 1st IFCC EFLM AFCB Conference – Laboratory Medicine meeting the needs of Mediterranean Nations.

7.5. Congress Guidelines

7.8. Congresses with IFCC Auspices

7.9. IFCC General Conference

7.20. Membership

7.30. Budget

7.40. Other Business

8. Scientific Division

8.1. Scientific Division Executive Committee

8.1.1. Mission Statement
8.1.2. Strategy
8.1.3. Projects
8.1.4. Terms of Reference

8.2. Committees

8.2.6. Nomenclature, Properties and Units (C-NPU)
8.2.11. Molecular Diagnostics (C-MD)
8.2.23. Traceability in Laboratory Medicine (C-TLM)
8.2.24. Reference Intervals and Decision Limits (C-RIDL)
8.2.25. Standardization of Thyroid Function Tests (C-STFT)
8.2.26. Harmonization of Autoimmune Tests (C-HAT)

8.3. Working Groups

8.3.35. Standardisation of Hemoglobin A2 (WG-HbA2)
8.3.36. Carbohydrate-Deficient Transferrin (WG-CDT)
8.3.39. Standardisation of Albumin Assay in Urine (WG-SAU)
8.3.40. Standardisation of Pregnancy-Associated Plasma Protein A (WG-PAPPA)
8.3.41. Growth Hormone (WG-GH)
8.3.42. Standardisation of Insulin Assays (WG-SIA)
8.3.43. Standardisation of Troponin I (WG-TNI)
8.3.46. Growth Hormone (WG-GH)
8.3.48. Parathyroid Hormone (WG-PTH)
8.3.49. CSF Protein (WG-CSF)
8.3.50. Standardisation of Bone Markers Assays (WG-BMA)
8.3.51. Commutability (WG-C)
8.3.53. Immunosuppressive Drugs (WG-ID)
8.3.54. Apolipoproteins by Mass Spectrometry (WG-APO MS)
8.3.55. Pancreatic Enzymes (WG-PE)
8.3.56. Fecal Immunochemical Testing (WG-FIT)
8.3.57. Cell free DNA and related circulating biomarkers (WG-cfDNA)
8.3.58. Standardization of Procalcitonin assays (WG-PCT)
8.3.59. Vitamin D Standardization program (WG-Vit D)

8.4. WHO collaboration

8.5. General Rules of Procedure

8.6. Documents

8.8. Project Proposals

8.9. Position Paper

8.12. Reference Materials & Standardisation

8.13. Joint Committee for Guides in Metrology (JCGM)
8.13.1. WG 1: Reference-Measurements and Reference-Materials
8.13.2. WG 2: Reference Laboratories (JCGM VIM-GUM)

8.14. Joint Committee for Traceability in Laboratory Medicine (JCTLM)

8.15. SD Aspects of IFCC Specialised Conferences

8.16. AACC Harmonisation Project

8.19. Meetings

8.20. Membership

8.25 .Agenda/Minutes

8.26. Activity and Annual Report

8.30. Budget

8.31. Contingency Fund

8.40. Other Business

9. Education and Management Division

9.1. Education and Management Division Executive
9.1.1. Mission Statement
9.1.2. Strategy
9.1.3. Projects
9.1.4. Terms of Reference

9.2. Committees
9.2.4. Clinical Molecular Biology Curriculum (C-CMBC)
9.2.5. Analytical Quality (C-AQ)
9.2.7. Evidence Based on Laboratory Medicine (C-EBLM)
9.2.9. Clinical Laboratory Management (C-CLM)
9.2.10. Internet and Distance learning (C-IDL)
9.2.11. Education in the Use of Biomarkers in Diabetes (C-EUBD)
9.2.12. Cardiac Biomarkers (C-CB)
9.2.13. Chronic Kidney Disease (C-CKD)
9.2.14. Point of Care Testing (C-POCT)
9.2.15. Proficiency Testing (C-PT)
9.2.16. Value Proposition for Laboratory Medicine (C-VPLM)

9.3. Working Groups
9.3.8. Laboratory Errors and Patient Safety (WG-LEPS)
9.3.10. Harmonisation of Interpretive Comments EQA (WG-ICQA)
9.3.11. Personal Support (WG-PS)

9.4. Special Projects
9.4.1. Visiting Lecture Program (VLP)
9.4.2. Flow Cytometry (WG-FC)
9.4.3. Developing Quality Competence in Medical Laboratories (DQCML)

9.5. General Rules of Procedure

9.6. Documents

9.8. Project Proposals

9.19. Meetings

9.20. Membership

9.25. Agenda/Minutes

9.26. Activity and Annual Reports

9.30. Budget

9.40. Other Business

10. Communications and Publications Division

10.1. Communications and Publications Division Executive
10.1.1. Mission Statement
10.1.2. Strategy
10.1.4. Terms of Reference

10.2. Committees
10.2.1. Public Relation (C-PR)
10.2.2. Internet and Distance Learning (C-IDL)

10.3. Working Groups
10.3.1. Electronic Journal of IFCC (WG-eJIFCC)
10.3.2. IFCC e-News (WG-IFCC News)
10.3.4. Ibero-American Nomenclature and Translation (WG-IANT)

10.4. Publication of Recommendations and Documents

10.5. General Rules of Procedure
10.5.1. IFCC Procedure Manual
10.5.2. Individual Responsibilities for Preparation of an IFCC Document
10.5.3. Instructions to authors to eJIFCC

10.6. Publications
10.6.1. Preparation of Documents of Committees and Working Groups
10.6.2. Monographs
10.6.3. Books
10.6.4. Conference proceedings
10.6.5. Annual report
10.6.6. Handbook
10.6.8. Views and Reviews
10.6.10. Electronic Publications
10.6.20. Other publications

10.7. Web Site
10.7.1. Organisational matters
10.7.2. Bookstore

10.7.3. eBanners
10.7.4. Databases
10.7.5. Distance Learning Programs

10.8. Related Journals
10.8.1. Meetings of Editors
10.8.2. Journals
10.8.2.1 Clinical Chemistry and Laboratory Medicine (CCLM)
10.8.2.2 Clinica Chimica Acta (CCA)
10.8.2.3 Labmedica International (LMI)
10.8.2.5 Annals of Clinical Biochemistry (ACB)

10.9. Public Relations
10.9.1. Brochure
10.9.2. IFCC Booth
10.9.3. Posters
10.9.4. Publicity
10.9.5. Miscellaneous PR Projects

10.10. Corporate Member Activities

10.19. Meetings

10.20. Membership

10.25. Agenda/Minutes

10.26. Activity and Annual Report
10.26.1. Report of the Chair
10.26.2. Report of the Vice Chair
10.26.3. Report of the Secretary

10.30. Budget

10.40. Other Business

11. Emerging Technologies Division

11.1 Emerging Technologies Division Executive
11.1.1 Mission Statement
11.1.2. Strategy
11.1.4. Terms of Reference

11.2. Committees
11.2.1. Committee for Emerging Pediatric Laboratory Medicine (C-EPLM)
11.2.2. Committee on Mobile Health and Bioengineering in Laboratory Medicine (C-MHBLM)
11.2.3. Committee for Omics Translation (C-OT)

11.3. Working Groups

11.5. General Rules of Procedure

11.6. Documents

11.8. Project Proposals

11.19. Meetings

11.20. Membership

11.25. Agenda/Minutes

11.26. Activity and Annual Reports

11.30. Budget

11.40. Other Business

12. Awards

12.1. Awards Committee

12.1.1. IFCC Distinguished Clinical Chemist Award

1. 1969 DD van Slyke (US)
2. 1972 CP Stewart (UK)
3. 1975 L Eldjarn (NO)
4. 1978 CB Laurell (SE)
5. 1981 P Metais (FR)
6. 1984 P Astrup (DK)
7. 1987 HU Bergmeyer (DE)
8. 1990 NG Anderson (US)
9. 1993 R Ekins (UK)
10. 1996 M Wilchek (IL)
11. 1999 DW Moss (UK)
12. 2002 N Hales (UK)
13. 2005 G Siest (FR)
14. 2008 DS Young (US)
15. 2011 UH Stenman (FI)
16. 2014 MJ McQueen (CA)
17. 2017 DYM Lo (HK)

12.1.2. IFCC Distinguished International Service Award (1981-1987), since 1990 IFCC Henry Wishinsky Award for Distinguished International Service

1. 1981 M Rubin (US)
2. 1984 P Lous (DK)
3. 1987 TP Whithead (UK)
4. 1990 ML Castillo de Sanchez (MX)
5. 1993 R Dybkaer (DK)
6. 1996 N Tietz (US)
7. 1999 M Shaarawy (Egypt)
8. 2002 O Zinder (IL)
9. 2005 JH Ladenson (US)
10. 2008 D Burnett (UK)
11. 2011 C Burtis (US)
12. 2014 R Dufour (US)
13. 2017 J. Hicks (US)

12.1.3. IFCC Award for Distinguished Contributions in Education

1. 1999 L Thomas (DE)
2. 2002 JB Henry (US)
3. 2005 WJ Marshall (UK)
4. 2008 NW Tietz (US)
5. 2011 M Burritt (US)
6. 2014 CA Burtis (US)
7. 2017 N Rifai (US)

12.1.4. IFCC Abbott Award for Significant Contributions to Molecular Diagnostics
1. 2002 L Peltonen (US)
2. 2003 R Bertina & P Reitsma (NL)
3. 2004 M Ferrari (IT)
4. 2005 CT Wittwer (US)
5. 2006 D Lo (HK)
6. 2008 O Kallioniemi (FI)
7. 2009 EP Diamandis (CA)
8. 2010 G Tsongalis (US)
9. 2011 M Neumaier (DE)
10. 2014 F Barany (US)
11. 2017 S. Branford (AU)

12.1.5. Distinguished Award for Laboratory Medicine and Patient Care
1. 2008 CWK Lam (HK)
2. 2011 RAJ Wanders (NL)
3. 2014 M Plebani (IT)
4. 2017 E. Diamandis (CA)

12.1.6. IFCC Robert Schaffer Award for Outstanding Achievements in the Development of Standards for Use in Laboratory Medicine
1. 2008 L Siekmann (DE)
2. 2011 L Thienpont (BE)
3. 2014 WG Miller (US)
4. 2017 M.M. Müller (AT)

12.1.7. IFCC Young Investigator Award
1. 2011 R Chiu (HK)
2. 2014 G Baird (US)
3. 2017 R. Shrestha (NP)

12.1.8. IFCC Distinguished Award for Contributions to Cardiovascular Diagnostics
1. 2017 J.H. Ladenson (US)

12.1.9 Gérard Siest-Biologie Prospective Award
1. 2020

13. Special Projects and Task Forces

13.1. Task Forces

13.1.1 Task Force on Ethics (TF-E)
13.1.6 Task Force for Young Scientists (TF-YS)

13.2. IFCC Professional Exchange Programmes (PEP)

13.2.1. Professional Scientific Exchange Programme (PSEP)
13.2.2. Professional Management Exchange Programme (PMEP)

13.3. IFCC Travel Scholarships

14. IFCC Statutes and Rules

14.1. Statutes

14.2. Rules

15. IFCC Finances

15.1. Organization of Finances

15.2. Budget

15.3. Income and Expenditure
15.3.1. Income
15.3.2. Expenditure

15.4. Annual Dues

15.5. Guidelines for Industry Support

15.6. Income from Congresses

15.7. Financial Advisory Committee

15.40. Other Business

16. Organisational Matters

16.1. IFCC Office

16.3. Nominations Committee

16.4. Annual Report

16.5. IFCC Handbook

16.6. IFCC Procedures Manual

16.7. Project Proposal Forms

16.8. IFCC Numbering System

16.9. Letter from IFCC President

16.10. Structure of IFCC

16.11. IFCC Public Relations Project

16.12. Statutes of IFCC Office

16.13. Members Mailing Lists

16.20. Intellectual Property

16.40. Other Business

17. Future Development

17.6. Strategic Plan

18. IFCC Foundation for Emerging Nations (FEN)

19. Meetings

19.1. Council Meetings (General Assembly)
19.1.1. Amsterdam, 1954
19.1.2. New York, 1956
19.1.3. Stockholm, 1957
19.1.4. Edinburgh, 1960
19.1.5. Detroit, 1963
19.1.6. Munich, 1966
19.1.7. Geneva, 1969
19.1.8. Copenhagen, 1972

19.1.9. Toronto, 1975
19.1.10. Mexico City, 1978
19.1.11. Vienna, 1981
19.1.12. Rio de Janeiro, 1984
19.1.13. Den Hague, 1987
19.1.14. San Francisco, 1990
19.1.15. Melbourne, 1993
19.1.16. London, 1996
19.1.17. Florence, 1999
19.1.18. Kyoto, 2002
19.1.19. Orlando, 2005
19.1.20. Fortaleza, 2008
19.1.21. Berlin, 2011
19.1.22. Istanbul, 2014
19.1.23. Durban, 2017
19.1.24. Seoul 2020
19.1.25. Rome 2023

19.6. General Conferences

1. Copenhagen, 1981
2. Copenhagen, 1984
3. Monza, 1988
4. Pont-a-Mousson, 1992
5. Leipzig, 1995
6. Seville, 1998
7. Dubrovnik, 2001
8. Tunis-Sousse, 2004
9. Antalya, 2008
10. Corfu, 2010
12. Kuala Lumpur, 2012
13. Madrid, 2016
14. Budapest 2018

19.80.00. EB Meetings & International Relationships

19.80.01. President's International Relationships

20. Inter-EB Correspondence

Chapter 17
IFCC Publications 2015-2017

IFCC Scientific Division (SD)

IFCC and IUPAC Joint Committee for Nomenclature, Properties and Unit (C-NPU)

Ferard G., Dybkaer R. The NPU format for clinical laboratory science reports regarding properties, units, and symbols. Chem Int. 2015; 37: 24-25. https://doi.org/10.1515/cclm-2012-0769.

Nordin G. Before defining performance criteria, we must agree on what a “qualitative test procedure” is. Clin Chem Lab Med. 2015; 53: 939-941. https://doi.org/10.1515/cclm-2015-0005.

Campbell C, Caldwell G, Coates P., Flatman R, Georgiou A., Horvath AR., Lam Q., Schneider H. Consensus Statement for the management and communication of high risk laboratory results, Clin Biochem Rev. 2015; 36: 97-105.

Wikipedia page for the NPU Terminology2016. https://en.wikipedia.org/wiki/NPU_terminology

Flatman R, Férard G, Dybkaer R. Understanding the ‘Silver Book’ – An important reference for standardised nomenclature in clinical laboratory sciences. Clin Chim Acta. 2017; 467: 4-7. https://doi.org/10.1016/j.cca.2016.06.035.

Ferard G, Dybkaer R, Fuentes Arderiu X. Silver Book 2: Compendium of terminology and nomenclature of properties in clinical laboratory sciences: Recommendations 2016. Royal Society of Chemistry eBook.

Vocabulary on nominal property, nominal examination, and related concepts for clinical laboratory sciences. IFCC-IUPAC Recommendation 2016. IUPAC Project 2004-023-1-700 extended 2008-019-1-700 (in final review pending publication).

IFCC Committee on Molecular Diagnostics (C-MD)

Payne DA, Baluchova K, Peoc’h KH, van Schaik RHN, ChanKC, Allen,Maekawa M, Mamotte C, Russomando G, Rousseau F, Ahmad-NejadP, on behalf of the IFCC Committee for Molecular Diagnostics (C-MD). Pre-examination factors affecting molecular diagnostic test results and interpretation: A case-based approach. Clin Chim Acta. 2017; 467: 59-69. http://dx.doi.org/10.1016/j.cca.2016.06.018.

Payne, DA, Baluchova, K, Russomando, G, Ahmad Nejad, P, Mamotte, C, Rousseau, F, van Schaik, RHN, Marriott, K, Maekawa, M, Chan, KC. Toward harmonization of clinical molecular diagnostic reports: Findings of an international survey. Clin Chem Lab Med 2018; 56: (in press). https://doi.org/10.1515/cclm-2017-1080.

IFCC Committee on Traceability in Laboratory Medicine (C-TLM)

Kessler A. Mass spectrometry – a key technique for traceability in clinical chemistry: Trends Anal Chem. 2016; 84: 74-79. https://doi.org/10.1016/j.trac2016.03.017.

IFCC Committee on Reference Intervals and Decision Limits (C-RIDL)

Borai A, Ichihara K, Masoud A, et al. Establishment of reference intervals of clinical chemistry analytes for adult population in Saudi Arabia: a study conducted as a part of the IFCC global study on reference values. Clin Chem Lab Med. 2016; 54: 843-855. https://doi.org/10.1515/cclm-2015-0490.

Ichihara K, Ozarda Y, Barth JH, et al. A global multicenter study on reference values: 1. Assessment of methods for derivation and comparison of reference intervals. Clin Chim Acta. 2017; 467: 70-82. https://doi.org/10.1016/j.cca.2016.09.016.

Ichihara K, Ozarda Y, Barth JH, Klee G, Shimizu Y, Xia I, Hoffmann M, Shah S, Matsha T, Wassung J, Smit F, Ruzhanskaya A, Straseski J, Bustos DN, Kimura S, Takahashi A. A global multicentre study on reference values: 2. Exploration of sources of variation across the countries. Clin Chim Acta. 2017; 467: 83-97. https://doi.org/10.1016/j.cca.2016.09.015.

Shimizu Y, Ichihara K. Sources of variation analysis and derivation of reference intervals for ALP, LDH, and amylase isozymes using sera from the Asian multicenter study on reference values. Clin Chim Acta. 2015; 446: 64-72. https://doi.org/10.1016/j.cca.2015.03.034.

Qin X, Tang G, Qiu L, et al. A multicenter reference intervals study for specific proteins in China. Medicine. 2015; 94: e2211. https://doi.org/10.1097/MD.0000000000002211.
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Xia L, Qiu L Cheng X, Chen M, et al. Nationwide multicenter reference interval study for 28 common biochemical analytes in China. Medicine. 2016; 95: e2915. https://doi.org/10.1097/MD.0000000000002915.

Ozarda Y. Reference intervals: current status, recent developments and future considerations. Biochem Med. 2016; 26: 5-16. https://doi.org/10.11613/BM.2016.001.

Bakan E, Polat H, Ozarda Y, Ozturk N, Baygutalp NK, Umudum FZ, Bakan N. A reference interval study for common biochemical analytes in Eastern Turkey: a comparison of a reference population with laboratory data mining. Biochem Med. 2016; 26: 210-223. https://doi.org/10.11613/BM.2016.023.

Ozarda Y, Ichihara K, Bakan E, Polat H, Ozturk N, Baygutalp NK, et al. A nationwide multicentre study in Turkey for establishing reference intervals of haematological parameters with novel use of a panel of whole blood. Biochem Med 2017; 27: 350-377.

IFCC Committee for Standardisation of Thyroid Function Tests (C-STFT)

De Grande LAC, Van Uytfanghe K, Reynders D, Das B, Faix JD, MacKenzie F, Decallonne B, Hishinuma A, Lapauw B, Taelman P, Van Crombrugge P, Van den Bruel A, Velkeniers B, Williams P, Thienpont LM. Standardization of free thyroxine measurements allows the adoption of a more uniform reference interval. Clin Chem. 2017; 63:1642-1652. https://doi.org/10.1373/clinchem.2017.274407.

Thienpont LM, Van Uytfanghe K, De Grande LAC, Reynders D, Das B, Faix JD, MacKenzie F, Decallonne B, Hishinuma A, Lapauw B, Taelman P, Van Crombrugge P, Van den Bruel A, Velkeniers B, Williams P. Harmonization of serum thyroid-stimulating hormone measurements paves the way for the adoption of a more uniform reference Interval. Clin Chem. 2017; 63:1248-1260. https://doi.org/10.1373/clinchem.2016.269456.

De Grande LAC, Goossens K, Van Uytfanghe K, Das B, MacKenzie F, Patru MM, Thienpont L. Monitoring the stability of the standardization status of FT4 and TSH assays by use of daily outpatient medians and flagging frequencies. Clin Chim Acta. 2017; 467: 8-14. https://doi.org/10.1016/j.cca.2016.04.032.

Thienpont LM, Faix JD, Beastall G. Standardization of FT4 and harmonization of TSH measurements: A request for input from endocrinologists and other physicians. Clin Endocrinol. 2015; 84: 305-306. https://doi.org/10.1111/cen.12861.

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Thienpont LM, Faix JD, Beastall G. Standardization of FT4 and harmonization of TSH Measurements: A Request for Input from Endocrinologists and Other Physicians. Exp Clin Endocrinol Diabetes. 2016; 124: 61-62. https://doi.org/10.1055/s-0035-1564102.

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IFCC Committee on Harmonization of Autoimmune Tests (C-HAT)

Hutu DP, Tuddenham E, Monogioudi E, Meroni P, Schimmel H, Sheldon J, Zegers I. First steps in the standardization of immunoglobulin IgG myeloperoxidase-anti-neutrophil cytoplasmic antibody measurements. Clin Exp Immunol. 2016; 183: 193-205. https://doi.org/10.1111/cei.12707.

Monogioudi E, Hutu DP, Martos G, Sheldon J, Schimmel H, Meroni PL, Zegers I. Development of a Certified Reference Material for myeloperoxidase-anti-neutrophil cytoplasmic autoantibodies (MPO-ANCA). Clin Chim Acta. 2017; 467:48-50. https://doi.org/doi/10.1016/j.cca.2016.05.031.

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IFCC Working Group on Standardisation of Hemoglobin A2 (WG-HbA2)

Paleari R, Caruso D, Kaiser P, Arsene CG, Schaeffer-Reiss C, Van Dorsselaer A, Bissé E, Ospina M, De Jesús VR, Wild B, Mosca A. Developing a reference system for the IFCC standardization of HbA2. Clin Chim Acta. 2017; 467: 21-26. https://doi.org/10.1016/j.cca.2016.05.023.

Arsene CG, Kaiser P, Henrion A, Paleari R, and Mosca A. Candidate reference measurement procedure for the determination of HbA2 fraction in human blood using mass spectrometry. Proceedings of the 14th International Symposium on Biological and Environmental Reference Materials, October 11-15, 2015, Maryland (USA), page 33.

Paleari R, Ceriotti F, Harteveld CL, Strollo M, Bakker-Verweij G, ter Huurne J, Bisoen S, Mosca A. Calibration by commutable control materials is able to reduce inter-method differences of current high-performance methods for HbA2. Clin Chim Acta 2018; 477: 60-65. https://doi.org/10/1016/j.cca2017.12.001.

IFCC Working Group on Standardisation of Carbohydrate-Deficient Transferrin (WG-CDT).

Helander A, Wielders J, Anton R, Arndt T, Bianchi V, Deenmamode J, Jeppsson JO, Whitfield JB, Weykamp C, Schellenberg F; Standardisation and use of the alcohol biomarker carbohydrate-deficient transferrin (CDT). Clin Chim Acta. 2016; 459:19-24. https://doi.org/:10.1016/j.cca.2016.05.016.

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Schellenberg F, Wielders J, Anton R, Bianchi V, Deenmamode J, Weykamp C, Whitfield J, Jeppsson J, Helander A. IFCC approved HPLC reference measurement procedure for the alcohol consumption biomarker carbohydrate-deficient transferrin (CDT): Its validation and use: Clin. Chim Acta. 2017; 465: 91-100; https://doi.org/10.1016/j.cca.2016.12.022.

IFCC Working Group on Standardisation of Albumin Assay in Urine- in collaboration with NKDEP (WG-SAU)

Miller WG, Seegmiller JC, Lieske JC, Narva AS, Bachmann LM. Standardization of urine albumin measurements: status and performance goals. J App Lab Med 2017; 2: 423-429. https://doi.org/10.1373/jalm.2017.02361.

IFCC Working Group on Standardisation Troponin I (WG-TNI).

Tate, J.R., Bunk, D.M., Christenson, R.H., Barth, J.H., Katrukha, A., Noble, J.E., Schimmel, H., Wang, L., Panteghini, M., Evaluation of standardization capability of current cardiac troponin I assays by a correlation study: results of an IFCC pilot project. Clin Chem Lab. Med. 2015; 53: 677 -690. https://doi.org/10.1515/cclm-2014-1197.

Wu AHB, Christenson RH, Greene DN, Jaffe AS, Kavsak PA, Ordonez-Llanos J, Apple FS. Clinical laboratory practice recommendations for the use of cardiac troponin in acute coronary syndrome: Expert opinion from the Academy of the American Association for Clinical Chemistry and the Task Force on Clinical Applications of Cardiac Bio-Markers of the International Federation of Clinical Chemistry and Laboratory Medicine. Clin Chem. 2018; 64: 645-655. https://doi.org/10.1373/clinchem.2017.277186.

IFCC Working Group on Clinical Quantitative Mass Spectrometry Proteomics (WG-cMSP)

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IFCC Working Group on Parathyroid Hormone (WG-PTH)

Sturgeon CM, Sprague S, Almond A, Cavalier E, Fraser WD, Algeciras-Schimnich A, Singh R, Souberbielle JC, Vesper HW. Perspective and priorities for improvement of parathyroid hormone (PTH) measurement - A view from the IFCC Working Group for PTH. Clin Chim Acta. 2017; 467:42-47. https://doi.org/10.1016/j.cca.2016.10.016.

IFCC Working Group on CSF proteins (WG-CSF)

Kuhlmann J, Andreasson U, Pannee J, Bjerke M, Portelius E, Leinenbach A, Bittner T, Korecka M, Jenkins RG, Vanderstichele H, Stoops E, Lewczuk P, Shaw LM, Zegers I, Schimmel H, Zetterberg H, Blennow K. CSF $A\beta_{1-42}$ - an excellent but complicated Alzheimer›s biomarker - a route to standardisation. Clin Chim Acta. 2017; 467: 27-33. https://doi.org/10.1016/j.cca.2016.05.014.

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IFCC Working Group on Standardisation of Bone Markers Assays in collaboration with IOF (WG-BMA)

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IFCC Working Group on Commutability (WG-C)

Miller WG, Schimmel H, Rej, R, Greenberg N, Ceriotti F, Burns C, Budd JR, Weycamp C, Delatour V, Nilsson G, Mackenzie F, Panteghini, M, Keller T, Camara JE, Zegers I, Vesper HW. IFCC Working Group Recommendations for Assessing Commutability. Part 1: General Experimental Design. Clin Chem. 2018;64: 447-454. https://doi.org/10.1373/clinchem.2017.277525.

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IFCC Committee on Evidence-Based Laboratory Medicine (C-EBLM)

Coenzyme Q10 and congestive heart failure: An evolving evidence base. Florkowski CM, Molyneux SM, Young JM. Kardiologia Polska. 2015; 73: 73-79. https://doi.org/10.5603/KP 2015.

Smit I, Zemlin AE, Erasmus RT. Demand management: An audit of pathology test rejections by an electronic gate-keeping system at an academic hospital in Cape Town. Ann Clin Biochem. 2015; 52: 481-487. https://doi.org/10.1177/0004563214567688.

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IFCC Committee on Clinical Laboratory Management (C-CLM)

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IFCC Committee on Education in the Use of Biomarkers in Diabetes (C-EUBD)

Lenters-Westra E, English E. Evaluating new HbA1c methods for adoption by the IFCC and NGSP reference networks using international quality targets. Clin Chem Lab Med. 2017; 55:1426-1434. https://doi.org/10.1515/cclm-2017-0109.

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Chapter 18
IFCC Foundation for Emerging Nations

18. IFCC Foundation for Emerging Nations

The IFCC Foundation for Emerging Nations (Foundation) has been launched in 2015. The Foundation is a non-profit making charity established under Swiss Law.

The purpose of the Foundation is to:

- Raise funds to support to support programmes that help to improve the quality and delivery of laboratory medicine services, especially in emerging nations
- Solicit and assess project proposals for Foundation support from IFCC Members
- Recommend projects worthy of Foundation support to the IFCC Executive Board

The Foundation has its own Board of Trustees and will operate at arm's length from IFCC. The Foundation will publish an annual report and audited annual accounts. The first Chair of the Foundation Board of Trustees is Dr Graham Beastall, IFCC Past President.

Further details of the Foundation may be obtained from: www.ifccfoundation.org

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