

**International Federation
of Clinical Chemistry
and Laboratory Medicine**



Advancing excellence in laboratory medicine for better healthcare worldwide

Handbook 2021-2023

**International Federation
of Clinical Chemistry
and Laboratory Medicine**



Handbook 2021-2023

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.

1 July, 2021

IFCC HANDBOOK 2021-2023

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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).

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Handbook of the International Federation of Clinical Chemistry and Laboratory Medicine

2021-2023 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 organisation 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 organisations, (2) supporting its members through scientific and educational endeavours, 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 organisation 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 the 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 the 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 the IFCC. This includes the organisation of the FCC 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 Organisations, 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 the 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. In particular we thank Dr Graham Beastall, an IFCC Past President, whose long experience and deep knowledge of IFCC was fundamental for the revision and completion of this publication.

Khosrow Adeli
President

David Kinniburgh
Secretary

1.2. ORGANISATION OF IFCC

The IFCC has three Membership categories.

- Full Members that are recognised and established national societies of clinical chemistry and laboratory medicine. Only one Full Member can be accepted from each country.
- Corporate Members, that are individual companies, corporate entities or research organisations involved in the field of clinical laboratory practice.
- Affiliate Members that are allied international or national societies or organisations interested in the science and practice of laboratory medicine. Multiple Affiliate Members can be accepted from each country.

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 electronic 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 a recognised 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 EB meeting per year. During the COVID pandemic, the EB has met monthly via Zoom conferencing.

The IFCC carries out much of its business through its Divisions and Committees.

There are currently four Divisions, each of which has an Executive Committee 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 Committees. These Committees have broad responsibility areas and tend to function for several years. Members of the Division Executive Committees, together with the Chairs of the Committees within each Division, are appointed by the Executive Board; ordinary members of Committees within each Division are appointed by the Division Executive Committees, with approval from the EB. Divisions may also appoint Working Groups to work on defined projects. 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 nominate candidates to serve on Division Executive Committees, Committees, Working Groups and Task Forces. Appointment is according to merit without respect to nationality or other affiliation, although geographic representation is recommended, and a Young Scientist is required on all Committees. Members (Full, Corporate and Affiliate) are also invited to participate in the work of Division Committees, Working Groups and Task Forces by nominating 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 Executive Committees, Committees and Task Forces, for maintaining the IFCC website and for all relevant documentation. The IFCC Office also supports the organisation of some IFCC Conferences. IFCC partially funds the support staff for the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM), which is co-located with the IFCC Office.

The address of the Office is:

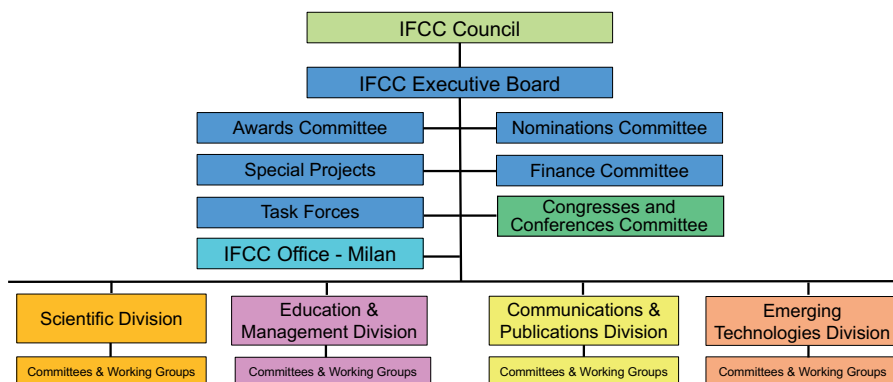
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Figure 1: IFCC Organisational Structure



1.3. THE IFCC EXECUTIVE BOARD 2021-2023

Biographies of the IFCC-EB members 2021-2023



President:
Prof. Khosrow ADELI

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Professor **Adeli** (PhD, FCACB, DABCC, FAACC) is the Head of Clinical Biochemistry in the Department of Paediatric Laboratory Medicine as well as a Senior Scientist in the Molecular Medicine Program of the Research Institute at the Hospital for Sick Children. He is also Vice-Chair of Quality and a Full Professor in the Department of Laboratory Medicine & Pathobiology at the University of Toronto in Toronto, Canada. He is very well known for his extensive national and international contributions over the past 30 years to clinical laboratory service, research, and education. Now, as President of the IFCC, his focus is on continuing the IFCC's journey towards global leadership in laboratory medicine by directly impacting healthcare and patient outcomes through efforts such as global newborn screening, directly contributing to global lab quality, becoming the largest provider of free eLearning, and ultimately continuing to promote the value of laboratory medicine worldwide.

Key Highlights of Professor Adeli's Qualifications:

- Past Chair (2013 - 2018) and Vice-Chair (2006 - 2012) of IFCC Communications & Publications Division
- More than 30 years of clinical chemistry academia and scientific experience in leadership positions
- Internationally recognized for outstanding contributions to clinical chemistry research, education, and service
- Prominent researcher with >600 peer-reviewed articles and abstracts, with >27,000 citations to published work, and many invited presentations

Leadership Positions:

- President, IFCC (2020 - 2023)
- Chair, IFCC Communications and Publications Division (2013 - 2018)
- Chair, IFCC Public Relations Committee (2007 - 2012)
- Board of Directors, AACC Academy (2015 - 2018)
- Editor-in-Chief, Critical Reviews in Clinical Laboratory Sciences (2013 - present)
- Scientific Advisory Board, International Centre in Genetic Engineering and Biotechnology (2009 - 2018)
- President, Commission on Accreditation in Clinical Chemistry (2007 - 2010)
- Editor-in-Chief, Clinical Biochemistry (1999 - 2006)

Research & Education:

- Over 30 years of basic and clinical laboratory research experience in the area of cardiovascular disease, type 2 diabetes, and lipid & lipoprotein metabolism

- Scholarly Impact (Google Scholar Statistics): h-index of 73 and i10-index of 273, with over 27,000 citations
- Development of the Canadian Laboratory Initiative on Pediatric Reference Intervals (CALIPER), the world-leading database of child and adolescent reference ranges adopted by clinical laboratories in over 100 countries worldwide
- Program Director of the Postdoctoral Training Program in Clinical Chemistry at the University of Toronto for 20 years (2000 - 2020)
- Trained over 50 clinical chemistry fellows, many of whom hold prominent positions in laboratories globally

International Award Recognition:

- 2020 Richard G. Hegele Award for Excellence in Research Innovation, Laboratory Medicine & Pathobiology, University of Toronto
- 2019 AACC Norman P. Kubasik Award
- 2019 AACC Academy Award for Outstanding Contributions to Clinical Chemistry
- 2018 Hungarian Academy of Laboratory Medicine Honorary Membership Award
- 2015 AACC Pediatric-Maternal-Fetal Division Award
- 2015 Ontario Society of Clinical Chemistry (OSCC) Lifetime Achievement Award
- 2015 Canadian Society of Clinical Chemistry (CSCC) Award for Innovation in Laboratory Medicine
- 2012 CSCC Award for Education Excellence
- 2010 ComACC Service Award
- 2006 CSCC Award for Outstanding Contributions to Clinical Chemistry
- 2004 Canadian Academy of Clinical Biochemistry (CACB) Award for Outstanding Contributions to Clinical Biochemistry

Contributions to IFCC and its Membership:

Professor Adeli recently completed a 12-year term on the IFCC Communications and Publications Division (CPD). He initially served as CPD Vice-Chair and later as Chair for 6 years. CPD is responsible for all IFCC publications and communication activities including the eNews, eJournal, website, eAcademy/eLearning, and public relations activities. During his term as Chair, he worked closely with the CPD executive, committees, and working groups and played a leadership role in significantly enhancing publication and communication activities of the IFCC organization. Key achievements of the CPD during Professor Adeli's leadership include:

- Creation of a Public Relations (PR) Committee and a global PR campaign on the value of lab medicine in healthcare
- A new and much improved IFCC Website

- An expanded and improved eNewsletter now published monthly
- Successful indexing of the electronic journal, eJIFCC
- Development of the eAcademy distance learning platform
- Development of an IFCC Mobile App to facilitate ready access to IFCC media
- Support of an enhanced DIV magazine for member societies across Latin America

Professor Adeli has also directly interacted with and personally knows IFCC national representatives from around the world as well as corporate members. As a result of his IFCC contributions and research achievements, he has been invited to deliver numerous presentations to IFCC national societies and/or regional/international conferences. He has therefore developed strong relationships with many IFCC member societies as well as many IFCC officers within the IFCC organization.

Personal Statement:

I am passionate about laboratory medicine and the opportunity to more extensively collaborate across our global communities to inspire and drive value to the profession and across healthcare. My considerable experience with the IFCC organization, numerous collaborations with IFCC members and member countries, as well as my productive track record during my term as IFCC division chair all collectively support my long-standing commitment and success to date.

The future holds considerable promise for the IFCC organization and its family of national societies and corporate members. I look forward to being part of the IFCC’s continued journey towards global leadership in lab medicine, contributing to its most valuable mission of advancing excellence in laboratory medicine for better healthcare worldwide.

Future Vision for the IFCC Organization:

I strongly believe that the IFCC organization is in a unique leadership position to:

1. Directly impact healthcare and patient outcomes by working with developing countries around the world to advance programs such as Global Newborn Screening.
2. Directly contribute to global lab quality by
 - developing an international IFCC External Quality Assurance program and innovative quality improvement strategies to disseminate the concept of total quality management and quality systems approach to clinical laboratories and national societies, particularly in developing countries.

- developing a global consortium on reference intervals for adult and paediatric populations, facilitating harmonization as a long-term goal.
- 3. Become the largest provider of free Distance Learning/eLearning in the field of laboratory medicine worldwide. Through the new eAcademy platform and its vast network of experts, IFCC can develop the most comprehensive database of eLearning programs to support education by its member societies particularly in developing countries.
- 4. Continue to promote the value of laboratory medicine by gathering the evidence to demonstrate the value of lab medicine in clinical decision making and healthcare delivery, communicating this to the public and all stakeholders.
- 5. Encourage and support a culture of innovation in the IFCC community and communicate technological and process innovations to laboratory scientists and physicians globally. In association with regional federations, member societies, young scientists, and corporate members, ensure that IFCC is a driver of technological innovations, such as artificial intelligence and machine learning, and their application in laboratory medicine.
- 6. Become the leader in developing practice guidelines to ensure optimal application and utilization of diagnostic services and improved clinical decision making using IFCC's extensive and wide-ranging scientific expertise.

Together, Professor Adeli and the IFCC Executive Board have designed a strategic plan that encompasses these aims, setting the tone for a very productive period from 2021 - 2023.



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 the 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 laboratory 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 and toxicology 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.

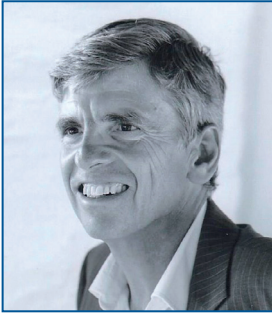
Dr. Kinniburgh was the inaugural Representative for the IFCC North American Federation of Clinical Chemistry and Laboratory Medicine (NAFCC, 2015–2017) and as part of that role, was an ex-officio member of the IFCC Executive Board (2015–2017). He was President of the Canadian Society of Clinical Chemists (CSCC) 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 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 lectures in the medical laboratory science course Applied Toxicology at the University of Alberta and 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, and sits on the University of Calgary Clinical Pharmacology and Toxicology, Resident Teaching Committee. He is active in a number of professional societies, has published 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 six 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. **Alexander HALIASSOS** is currently the President and CEO of DIAMEDICA, a Greek reference laboratory specialized in Prenatal Diagnostics based in Athens since 2006. He also acts as Scientific Director of the Greek External Quality Assessment Scheme in Laboratory Medicine (ESEAP), a non-profit organization established by the Greek Ministry of Health as a spin-off of the Greek Society of Clinical Chemistry-Clinical biochemistry (GSCC-CB).

He obtained his MD diploma at the medical School of the University of Athens (1985) and, after his military service as medical doctor at the Greek Air Force (1985-1987), he obtained in 1991 his thesis (PhD) at the school of Medicine, National University of Athens, Greece. He pursued his scientific education at the Faculty of Medicine, Claude Bernard University, Lyon I (FR) where he gained a thesis (DEA) on electronics applied in the medical field, and one in human genetics in 1985. He had completed his curriculum in France as post-doctoral fellow (1987-1991) at the "Institute of Molecular Biology" of Paris-Descartes University.

Dr Alexander Haliassos is registered as European Clinical Chemist (EurClinChem, now EurSpLM) since 2003. He fulfilled many responsibilities in teaching medical students at the National Research Foundation Institute for Biological Research and Biotechnology in Athens, Greece; in directing the core medical laboratory, including the Blood Bank of the Onassis Cardiac Surgery Center, the Athens Euroclinic and the Metropolitan Hospital at Athens, Greece and in participating in genetics research.

At the national level, Dr Haliassos has held a number of professional representative roles in Greece including GSCC-CB Executive Board member (1996-2003), then, as Scientific Secretary (2005-2011), as General Secretary (2012-2017) and from 2017 until today he is President of the GSCC-CB. Since 2011, he is a founding Member of the Scientific and Educational Committee of the GSCC-CB and a founding Member of the Greek National Registration Committee for Clinical Chemistry. He represents ESEAP at EQALM, and he is an elected member of HellasLab Executive Board, the Greek section of EuroLab. On behalf the Greek Society, he strengthened partnerships with multilateral agencies to promote the added value of laboratory medicine as a key factor to improve population health.

At the international level, Dr Alexander Haliassos is member of the American Association of Clinical Chemistry (AACC) since 1993, and the leading Editor of the website www.labtestsonline.gr. He is the IFCC

National Representative of Greece since 2005. During the last decade, he has been involved in various scientific and professional International/European committees and/or working groups. As member of the EFCC-Distance Education Programs – E-Learning”, he organized the very first EFCC e-seminars. Within IFCC, he served as member of the IFCC-WG on Standardization of Troponin I (WG-TNI) and as member of the IFCC-Analytical Quality Committee (C-AQ). In 2014, he was appointed as Chair of the IFCC-Task Force on Proficiency Testing (TF-PT) that in 2017 evolved to the Committee on Proficiency Testing (C-PT), a multidisciplinary effort of IFCC in the analysis and the exploration of the Proficiency Testing and External Quality Control issues.

For several years now, he intensified its engagements with the IFCC conferences and congresses acting as the Greek leader for the organization of the 10th IFCC-General Conference, at Corfu in 2010, as Member of the EuroMedLab Paris 2015 Congress Organizing Committee (COC) and as the President of EuroMedLab Athens 2017. Dr Alexander Haliassos published more than 56 papers in peer-reviewed scientific journals cited 1012 times (H-index 11), made more than 120 oral presentations in international congresses, participated in 155 posters in international meetings and chaired one international (EuroMedLab Athens 2017), two national congresses and several seminars on laboratory medicine subjects. His personal interests include: swimming sports, traveling, electronics, artificial intelligence and information technology applications.



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Joseph PASSARELLI is Senior Director, Scientific Relations at Roche Diagnostics Corporation. In this role, he represents Roche as a scientific liaison to professional societies and standard- and guideline-setting organizations worldwide. He has worked both domestically and internationally in research and development for more than 35 years and has experience in discovery, research, development, laboratory management, technology transfer, regulatory submissions, and market commercialization. His scientific background includes developing immunoassays that use multiple technologies for homogenous laboratory-based testing platforms. He is recognized in the fields of drugs of abuse testing and therapeutic drug monitoring. Before assuming his current role, Mr. Passarelli was head of Roche Diagnostics Research and Development for these scientific disciplines.

Mr. Passarelli is currently Secretary to the International Federation of Clinical Chemistry and Laboratory Medicine's Scientific Division Executive Committee. Prior to this role, he served as SD's corporate member. Mr. Passarelli is also the chair of the newly formed Task Force – Corporate Members (TF-CM) with his first term ending at the end of 2021. The main task of the TF-CM is to strengthen the collaboration between IFCC and its Corporate Members and to better address their specific needs and challenges. He is also a member of the Harmonization Oversight Group of the International Consortium for Harmonization of Clinical Laboratory Results (ICHCLR).

In addition to his activities with the IFCC, Mr. Passarelli has been active with Clinical and Laboratory Standards Institute (CLSI) for several years. Currently he serves on the CLSI Board of Directors as one of its Officers – Secretary and prior to this, as a member of the CLSI Consensus Council. He also serves as a member of the Executive Committee of the US Technical Advisory Group to the International Organization for Standardization (ISO) Technical Committee 212 – Clinical laboratory testing and in vitro diagnostic test systems. His professional interests include educating and promoting the value of standardization and harmonization through the use of recognized standards and guidelines and he collaborates extensively with professional organizations worldwide. Mr. Passarelli is a member of the American Association for Clinical Chemistry (AACC) Industry Division and received the 2014 AACC Presidential Citation for his contributions to laboratory medicine and education.



**Regional Federation
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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 and Former Deputy Vice Chancellor of the same University. At the University of Ilorin, he was Former Dean of Faculty of Basic Medical Sciences.

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. He has been examining in the NPGMCN and WACP since 1993.

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

Prof. Okesina has won several academic 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. In 1980 he was award National Honour by the Nigerian Government post National Youth Service Corps (NYSC) and IFCC bursary award as a young scientist in 1996. He has over 85 publications in peer-review journals. His research interest is in diabetes mellitus and chronic non-communicable diseases. He has trained one PhD and more than 16 medical doctors to become specialists in Chemical Pathology out of which six 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 January 2013 to December 2017. He was appointed Foundation Fellow of the College of Pathology of East Central and South Africa (COPECSA) in 2014. He was once the National Vice President of Islamic Medical Association of Nigeria (IMAN).

Prof. Okesina is a charter member (in 1986) of Ilorin Central Lions, he was Lions District 404 Zone 6 chairperson in 1995/96 and had received many National and International Awards for services to the community. He is happily married with children and 2 grandchildren.



**Regional Federation
Representative - AFCB:
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Prof. **Abderrazek HEDHILI** is Professor of Toxicology at the Faculty of Pharmacy of Monastir Tunisia. He is Head of the Biology & Toxicology Laboratories Centre Mahmoud Yacoub d'Assistance Medicale Urgente (CMYAMU). He is the Chair of the Laboratory of Toxicology & Environment research LR12SP07, Consultant Toxicologist for the Tunisian ministries of Health, Social Affairs and Environment, and for the Tunisian control Agency (ANCSEP). He is also member of the Board of Directors INEAS and EPS Jebel Ouest Hospital for drug addicts, President of the specialized expert committee on Food and Aliments, Member of the National Committee for the Prevention and Combating of Maritime Pollution Accidents, of the Tunisian Committee on Pesticides. Prof Hedhili is Toxicologist Expert for many international organisations such as WHO ICSCs - WHO advisor on drugs abuse; International labour organization (atmospheric and work polluters) and of the Arab Organization of Work (polluters in the work areas). He is an elected member of the French Academy of Pharmacists since September 2016.

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 two IFCC Congresses: 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), in Tunisia (2004), Syria (2006), in Lebanon (2009), in Jordan and Sudan (2015) and of the 2nd IFCC Conference (Sousse – Tunisia, 2004), and the FIFBCML conferences in Morocco (2008), Tunisia (2010) and Algeria 2019.

Prof Hedhili is member of many International Journals as a scientific board member. He is the author and co-author of 100 published articles, 50 thesis and masters, and he is responsible of the Laboratory of Toxicology & Environment research (50 researchers) and have supervised more than 40 researchers (thesis projects, masters). His research areas mainly focus on: pesticides, mycotoxins, drug abuse, chemical risks, trace elements, drug monitoring, environmental pollutants, residues of licit and illicit drugs

in wastewater, 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 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 Internationale 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 (2011-2016). Prof Hedhili was IFCC Representative of the Tunisian Society (2005-2011), Corresponding Member of the IFCC C-CC, member of the WG eNews and IFCC EB Member (2018-2020).



**Regional Federation
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Prof **Sunil Sethi** (MBBS (S'pore), M.Med (Int. Med), MRCP(UK), FRCPPath, 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 (FRCPPath) 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
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Prof. **Ana-Maria ŠIMUNDIĆ**, PhD, EuSpLM, has received her graduate and postgraduate education at the Faculty of Pharmacy and Medical Biochemistry at the Zagreb University where she currently holds a professor position at the department of Medical Biochemistry. Currently, Prof. Šimundić is employed at the Clinical Hospital Sveti Duh in Zagreb, where she holds a position of the Head of the Department of Medical Laboratory Diagnostics.

She was the President of the Croatian Society of Medical Biochemistry and Laboratory Medicine 2012-2018. Until the end of 2017, she has served as the Editor-in-chief of the journal *Biochemia Medica*, published by Croatian society of Medical Biochemistry and Laboratory Medicine. She now holds a Senior Editor position in that Journal.

During her professional career, Prof. Šimundić has served the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM), in various roles over the years; as the Executive Board Secretary (2011-2017), President-Elect (2018-2019) and President of the EFLM (2020-today). She has been chairing the Working group for Preanalytical Phase (WG-PRE) since 2012-2018. Currently she acts as the Expert-Consultant in this group.

She was awarded with the Best Young Scientist award (2000) and Best Research award (2011) by the Croatian Society of Medical Biochemistry and Laboratory Medicine, with the Per Hyltoft Petersen Award (2012) by the Slovak Society of Laboratory Medicine and with the Honorary membership of the Hungarian society for Laboratory medicine (2012). In 2015 she was among the Top 100 Powerlist of the British journal: *The pathologist*.

Prof. Šimundić has authored or co-authored numerous peer reviewed manuscripts. Her research activities focus on quality management and preanalytical phase.



**Regional Federation
Representative - COLABIOCLI:
Dr. Ana María LENA
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Dr **Ana María LENA** (PhD), Clinical Biochemist, Pharmaceutical Chemistry received her PhD degrees from the University of the Republic of Uruguay in 2004 about Coagulation disorders in diabetic patients.

Currently, Dr Lena is Professor of Clinical Analysis at the Faculty of Chemistry of the University of the Republic. In addition, since 2004, she is in charge of the Hematology Course for students in Clinical Biochemistry.

Previously she was Technical Director of CEAHT Laboratory (Center Specialized in Conditions of Hemostasis and Thrombosis) from 2005 up to 2019. She did a fellowship in Liver Transplantation at the Italian Hospital of Buenos Aires Argentina.

From 1997 to 2011 she was Head of the Hematology Service of the Laboratory of the Military Hospital. She was Professor of Biochemistry at Catholic University.

In the period 2018-2019 she was member of the COLABIOCLI Executive Board as General Secretary.

She is author of research papers and publications in the area of Hemostasis and Thrombosis.

She is CLAHT member (Latin American Cooperative Group for Hemostasis and Thrombosis) and Vice President of ICHT (Research and Science in Hemostasis and Thrombosis).

She is member of the Administrative Committee of the Uruguayan Registry of Von Willebrand Disease in Uruguay.



**Regional Federation
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Dr Stephen HILL**

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Dr. **Stephen HILL**, PhD, FCACB began his career in laboratory medicine as a medical laboratory technologist, and then earned a BSc and PhD in biochemistry from the University of Western Ontario, followed by a post-doctoral fellowship in Clinical Biochemistry at McMaster University in Hamilton Canada. Since 1990, he has been on the faculty of the Department of Pathology and Molecular Medicine at McMaster, currently serving as an Associate Professor.

Dr. Hill has a strong interest in education at all levels; undergraduate science and medicine, graduate, and post-doctoral. As the program director of the post-doctoral training program in Clinical Biochemistry at McMaster, he has overseen the training of more than twenty clinical biochemistry fellows and residents over 12 years. He has been the course coordinator for an undergraduate course in clinical biochemistry for biochemistry and life science students for 20 years. He is a tutor in the problem-based undergraduate medicine program.

Dr. Hill has served a number of professional representative roles in Canada, including treasurer and president of the Ontario Society of Clinical Chemists, board chair of the Canadian Academy of Clinical Biochemistry, and secretary and president of the Canadian Society of Clinical Chemists.

Dr. Hill's research interests include novel biomarkers of Cystic Fibrosis and understanding the sweat metabolome, as well as evidence-based and effective use of clinical chemistry testing, especially in the pediatric setting, and biomarkers of cardiac injury.

He is pleased to serve as the NAFCC representative on the IFCC board; to promote the views and interests of the NAFCC within the IFCC, and equally important, to promote the views and Interests of the IFCC in North America.

Stephen is married and lives in Hamilton. He is a sailor and skier. He is an active volunteer with the Able Sail program at the Royal Hamilton Yacht Club, a program that teaches persons with disabilities to sail and to enjoy freedom of sailing.

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, urine and other biological fluids/tissues. 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 in other disciplines of Laboratory Medicine including Haematology, Transfusion Medicine, Immunology, Microbiology, Toxicology and 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 a significant number 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 applications, data analysis, 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-laboratory 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 the in-vitro diagnostics industry. Typically, original science in research laboratories often 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 best practice based clinical guidelines
- Participation of multidisciplinary teams
- A patient centric focus
- 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, the 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 the 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 communication. We will communicate effectively through a variety of electronic media. We will hold outstanding congresses and conferences to bring the efforts of the IFCC to the global community”.

The specific aims of the 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.

The 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.

The IFCC has a major responsibility for promoting and supporting 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. The 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. The 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 the 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:

The eight areas of expertise to support the IFCC Vision Statement are:

- Applying science to promote harmonisation 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 organisational structure
- Being transparent and responsible in our financial affairs
- Being mindful of the international ethical codes pertaining to our activities.

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 the 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".

IFCC Strategic Plan 2020-2023

The IFCC President, Prof. Khosrow Adeli, with the support of the IFCC Executive Board has prepared a strategic plan for the period 2020-2023, to continue the IFCC's mission of "Advancing excellence in laboratory medicine for better healthcare worldwide".

In partnership with all IFCC Divisions and functional units, over the next years IFCC will strive to enhance its leadership position in the field of laboratory medicine by:

- **Directly Impacting Healthcare and Patient Outcomes** by working with developing countries around the world to advance programs for **Global Newborn Screening** in collaboration with WHO, Gates Foundation, industry, others; and by providing the necessary scientific and operational training and support on-site for labs in developing countries.
- **Directly Contribute to Global Lab Quality** by developing an **International IFCC Internal Quality Control and External Quality Assurance program** and innovative quality improvement strategies, to disseminate the concept of total quality management and quality systems approach to clinical laboratories and national societies, particularly in developing countries.
- **Directly Contribute to Global Lab Quality – Develop a global consortium on Reference Intervals**, for adult, paediatric and geriatric populations. The initiative

would involve expertise and data from expert groups in this area, from around the world. The IFCC would become the repository for collective data from around the world, facilitating harmonisation as a long-term goal.

- **Becoming the largest provider of free Distance Learning/eLearning in the field of laboratory medicine worldwide.** Globally, focusing on developing countries and young scientists, students and trainees, through the new eAcademy platform and its vast network of experts, the IFCC can develop the most comprehensive database of eLearning programs to support education by its member societies.
- **Continuing to promote the Value of Laboratory Medicine** by gathering the evidence to demonstrate the value of lab medicine in clinical decision making and healthcare delivery and communicating this to the public and all stakeholders. A key mandate of this initiative will be to develop the value of Lab Medicine, by collaborating and encouraging research, particularly in areas like critical care, endocrinology, cardiology, GI/Nutrition, etc. The TF could help centres in setting up studies to properly collect such data (common study protocols and formats). The evidence gathered from around the world can then be used to promote the critical role of laboratory medicine in healthcare to key stakeholders including governments, administrators and other healthcare workers as well as the public at large.
- **Encouraging and supporting a culture of innovation** in the IFCC community and communicate technological and process innovations to laboratory scientists and physicians globally. In association with regional federations, member societies, young scientists, and corporate members, ensure that IFCC is a driver of technological innovations such as artificial intelligence and machine learning, and their application in laboratory medicine.
- **Enhancing functional unit productivity by increasing the use of video conferencing across all units within the IFCC organisation**, i.e., monthly virtual meetings, in addition to one face to face meeting is recommended.



1.7. STRATEGIC OBJECTIVES 2021-2023

The Executive Board for 2021-2023 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 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 24 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 2021 – December 2023. 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 2021-2023. It is intended that the plan will be modified in the light of changing circumstances.

Area A: Supporting our Membership

Number	Specific Strategic Actions
1	Conduct an annual survey of national society members as well as an annual survey of all corporate members, to identify the ways in which IFCC can best support its members.
2	Provide more funding for Visiting Lecturer Program (VLP) and Professional Exchange Program (PEP).
3	The EB will meet at least annually with all Division Chairs and TFs.
4	Establish a Task Force on Global eLearning/eAcademy to: a) Develop and present a series of live and recorded webinars to meet the needs of Members. b) Improve/enhance the e-academy as the platform to support IFCC educational materials.
5	Hold Annual Townhalls with all regional federations, national societies and corporate members (separate regional annual townhalls with the Americas, Europe/Middle East/North Africa/Africa, and Asia-Pacific, and a separate townhall with corporate members). Organise at least one opportunity each year for the Executive Board to meet with the Presidents of each of the IFCC Regional Federations to identify opportunities for collaboration (virtually or in person).
6	a) Improve communication with Members in all Regions. b) Support at least one major new project in each Region in three-year term. c) Increase funding to Federations except EFLM and NAFCC.
7	Devise and introduce a strategy to increase the attractiveness of IFCC to Corporate members via the TF-CM.
8	Devise and introduce a strategy to encourage participation of countries in Council meetings.
9	Increase the presence of IFCC Officers at meetings granted auspices / national congresses, including virtual meetings, and facilitate IFCC booths in both physical and virtual events.
10	Improve the visibility of IFCC in National Societies by encouraging them to include a short IFCC news section in their national newsletter or website.

11	Produce and publish an e-booklet to encourage young scientists to undertake research.
12	Consolidate the mentoring programme as a Special Project and promote its gradual expansion.
13	Initiate a new conference schedule with a large event annually, alternating between the EuroMedLab in Europe and the WorldLab in other regions.

Area B: Broadening Our Horizons

Number	Strategic Action
14	Invite organisations from outside laboratory medicine to contribute to IFCC meetings to promote better interaction with healthcare professionals.
15	Continue to support young scientists participating in IFCC Committees and Working Groups.

Area C: Improving the Quality of Laboratory Medicine

Number	Strategic Action
16	Establish a Task Force on Global Lab Quality.
17	Establish a Task Force on Global Newborn Screening.
18	Establish a Task Force on Global Reference Intervals.
19	Establish a Task Force on Outcome Studies in Laboratory Medicine.
20	Strengthen the links and collaboration with the World Health Organization (WHO).
21	Encourage IFCC involvement/leadership in chronic disease management and AI and informatics.

Area D: Improving the Effectiveness of IFCC

Number	Strategic Action
22	Review IFCC finances and improve financial management of the organisation using an international accounting firm and appropriate/transparent auditing practices for all income and expenses.
23	Encourage more regular meetings of all IFCC Functional Groups through virtual Zoom meetings.
24	Increase staff resources in the IFCC Office to support activities of existing and new functional units.

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, the 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 the 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. The IFCC is now a Federation of 94 Full Member national societies of Clinical Chemistry and Laboratory Medicine and 17 Affiliate Members, representing about 45.000 individual clinical chemists, laboratory scientists, and laboratory physicians plus 50 Corporate Members covering the major areas of clinical laboratory activities 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. In 2020 Mathias Müller and Bernard Gouget published the IFCC Milestones Golden Achievements (2003- 2020). This edition provides an update on the evolution of the IFCC since the beginning of the 21st century and is available from the IFCC website.

1.8.2. IFCC Presidents

The history of the 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, the 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 that became authoritative groups in their respective 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 the 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 has 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 and was 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 NCCLS/IFCC projects started. Standardisation on high metrological levels has always been a major undertaking and has contributed to the credibility of the 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) were established for the implementation of traceability in Laboratory Medicine. New awards for significant contributions in molecular diagnostics, and in education and inpatient 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 developing country Members to be paramount, as it is the patient who benefits. Under her leadership the Visiting Lecturer Programme was greatly expanded with a 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 generously assisted in establishing 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 started with a substantial grant from Ortho Clinical Diagnostics. The first of these was held in Birmingham in the UK in 2008. The theme was 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 the 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 Chair of Committee on Clinical Molecular Biology Curriculum, member of IFCC Task Force on Pharmacogenetics, member of the Education and Management Division of IFCC, and Chair 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, "We advance excellence in laboratory medicine for better healthcare worldwide", and implemented 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 North American Federation of Clinical Chemistry and Laboratory Medicine was formed (thanks also to the efforts of President Graham Beastall), and the election of six Regional Federation representatives took place during this period to create a more dynamic and representative Executive Board. 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 developing countries. 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.

Prof Howard Morris, from Australia, became President in 2018, the first person outside of the Europe or North America to hold this position. He previously served as IFCC Vice President (2012-2014), Secretary of the Scientific Division of the IFCC (2003-2008), Chair of the IFCC-International Osteoporosis Foundation Joint Working Group 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 International Clinical Liaison (2009-2011). Sadly, Prof Morris passed away suddenly on April 18, 2019, while serving the IFCC. Prof Morris had an ambitious and important strategic plan to continue the medical scientific excellence of the IFCC, enhance global educational efforts and relationships with other medical organisations, and provide greater recognition of the value of laboratory medicine, and it was a great loss that he was not able to see his vision for the IFCC realized. With Prof Morris's passing, Prof Maurizio Ferrari assumed the role of President and steered the IFCC through those difficult times until Prof Khosrow Adeli, having been elected as President-Elect, assumed the presidency early, in 2020.

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 documentation from the various activities 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 played a part in the Federation's affairs. During 1988-1990 the Executive Board devoted considerable effort to determine 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 four staff members, Mrs Paola Bramati, Mrs Silvia Cardinale, Mrs Silvia Colli Lanzi and Ms Smeralda Skenderaj.

1.8.4. External Links

The IFCC has maintained its relations with WHO. 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 all 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/harmonisation 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. The IFCC has signed Memoranda of Understanding agreements with ILAC (International Laboratory Accreditation Cooperation), HIMSS (Healthcare Information and Management Systems Society), ISTH (International Society on Thrombosis and Haemostasis) and WASPaLM to formalise and improve collaboration.

1.8.5. Membership of IFCC Executive Boards

President

E.J. King (UK) 1952 - 1960	MJ. Mc Queen (CA) 1997 - 1999
ME. Freeman (US) 1960 - 1963	MM. Müller (AT) 2000 - 2005
JE. Courtois (FR) 1963 - 1967	JMB. Hicks (US) 2006 - 2008
M. Rubin (US) 1967 - 1975	GH. Beasall (UK) 2009 - 2014
J. Frei (CH) 1976 - 1978	M. Ferrari (IT) 2015 - 2017
R. Dybkaer (DK) 1979 - 1984	H. Morris (AU) 2018 - 2019 04
DS. Young (US) 1985 - 1990	M. Ferrari (IT) 2019 05- 2020 04
G. Siest (FR) 1991 - 1996	K. Adeli (CA) 2020 05 - 2023

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	

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 - 2023
MM. Müller (AT) 1985 - 1987	

Assistant Secretary

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

President Elect

H. Morris (AU) 2017
K. Adeli (CA) 2020

Treasurer

L. Hartmann (FR) 1966 - 1972	A. Kallner (SE) 1982 - 1984
PMG. Broughton (UK) 1972 - 1975	ML. Castillo de Sanchez (MX) 1985 - 1987
RG. Edwards (AU) 1976 - 1978	MJ. Mc Queen (CA) 1988 - 1990
JG. Hill (CA) 1979 - 1981	NC. Den Boer (NL) 1991 - 1996

P. Mocarelli (IT) 1997 - 2002
JMB. Hicks (US) 2003 - 2005
G. Shannan (SY) 2006 - 2011

B. Gouget (FR) 2012 - 2014
T. Ozben (TR) 2015 - 2020
A Haliassos (GR) 2021 -2023

Members of Executive Board

A. Sobel (US) 1952 - 1954
P. Fleury (FR) 1952 - 1954
B. Josephson (SE) 1952 - 1960
JCM. Verschure (NL) 1954 - 1959
WM. Sperry (US) 1955 - 1960
K. Hinsberg (DE) 1958 - 1963
JE. Courtois (FR) 1958 - 1963
MC. Sanz (CH) 1958 - 1963
NF. Maclagan (UK) 1960 - 1967
VN. Orekhovich (SU) 1960 - 1967
SH. Jackson (CA) 1960 - 1967
M. Rubin (US) 1963 - 1967
R. Ruyseen (BE) 1963 - 1967
J. de Wael (NL) 1966 - 1967
I. Nagy (HU) 1980 - 1987
N. Montalbetti (IT) 1981 - 1985
FW. Sunderman Jr (US) 1981 - 1985
H. Wishinsky (US) 1985 - 1987
SS. Brown (UK) 1985 - 1990
J. Jaervisalo (FI) 1985 - 1990
D. Scheuch (DE) 1985 - 1990
I-K. Tan (SG) 1985 - 1990
F. Dati (DE) 1988 - 1993
N. Montalbetti (IT) 1990 - 1992
HP. Lehmann (US) 1990 - 1994

N. de Cediél (CO) 1991 - 1993
O. Zinder (IL) 1991 - 1994
JB. Whitfield (AU) 1994 - 1999
H. Wetzel (DE) 1994 - 1999
TD. Geary (AU) 1994 - 1999
P. Mocarelli (IT) 1994 - 1999
A. Kallner (SE) 1994 - 1999
L. Muszbek (HU) 1997 - 1999
RI. Sierra Amor (MX) 1997 - 2002
W. Hölzel (DE) 2000 - 2002
CWK. Lam (HK) 2000 - 2005
V. Palicka (CZ) 2003 - 2005
H. Wetzel (DE) 2003 - 2005
D. Mazziotta (AR) 2003 - 2008
N. Madry (DE) 2006 - 2008
M. Thomas (UK) 2006 - 2008
JB. Lopez (MY) 2006 - 2011
B. Gouget (FR) 2009 - 2011
T. Brinkmann (DE) 2009 - 2014
U. Tuma (BR) 2009 - 2014
L. Kricka (US) 2012 - 2014
V. Steenkamp (SA) 2012 - 2017
R. Hinzmann (DE) 2015 - 2017
D. Mazziotta (AR) 2015 - 2017
RI. Sierra-Amor (MX) 2015 - 2017

Corporate Representatives

H. Wetzel (DE) 1994 - 1999
W. Hölzel (DE) 2000 - 2002
H. Wetzel (DE) 2003 - 2005
N. Madry (DE) 2006 - 2008

T. Brinkmann (DE) 2009 - 2014
R. Hinzmann (DE) 2015 - 2020
J. Passarelli (US) 2021 - 2023

IFCC Regional Federation Representatives at Executive Board

African Federation of Clinical Chemistry (AFCC)

AB Okesina (NG) 2018 - 2023

Arab Federation of Clinical Biology (AFCB)

A. Hedhili (TU) 2018 - 2023

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

S. Sethi (SG) 2018 - 2023

European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)

S. Sandberg (NW) 2018 - 2023
AM Simundic (HR) 2021 - 2023

Latin-American Confederation of Clinical Biochemistry (COLABIOCLI)

RI Sierra-Amor (MX) 2018 – 2023

AM Lena (UY) 2021 - 2023

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

D. Kinniburgh (CA) 2015-2018

A. Gronowski (US) 2018 – 2020

S. Hill (CA) 2021 – 2023

Chapter 2

Full Member Societies

2.1. FULL MEMBERS OF IFCC

Albania (AL)

Albanian Society of Clinical Biochemistry and Laboratory Medicine (ASoLaM)

Prof. Asc. Anyla Bulo Kasneci

University Hospital Center "Mother Teresa"
Laboratory Department
Rr. Dibres, 372
Tirana - Albania
E-mail: abulo@asolam.org
Website: www.asolam.org

Algeria (DZ)

Société Algérienne de Biologie Clinique (SABC)

Prof. Imessaoudene Belaid

Laboratoire Central de Biologie
Ehs Benaknoun
Rue des Deux Bassins, Benaknoun
Alger - Algeria
E-mail: imessaoudene67@gmail.com

Argentina (AR)

Confederación Unificada Bioquímica de la Republica Argentina (CUBRA)

Dr. Alejandra Arias

Av. Rivadavia 2319 Piso 11° "A"
CP 1034 Ciudad de Buenos Aires
Argentina
E-mail: cubra@cubra.info
Website: www.cubra.info

Australia and New Zealand (AU/NZ)

Australasian Association for Clinical Biochemistry and Laboratory Medicine (AACB)

Dr. Peter Ward

President AACB
Managing Scientist, Chemical Pathology
NSW Health Pathology
Level 5 Acute Services Building
Royal North Shore Hospital
Pacific Highway, St Leonards
NSW 2065 - Australia
Office
PO Box 7336
5/85 Bourke Rd
Alexandria NSW, 2015
Australia
E-mail: office@aacb.asn.au
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/

Belgium (BE)

Royal Belgian Society of Laboratory Medicine (RBSLM)

Prof. Dr. Joris Delanghe

Dept of clinical chemistry
Ghent University
De Pintelaan 185 (2P8)
B 9000 Gent
Belgium
E-mail: Joris.Delanghe@UGent.be
Website: www.rbslm.be

Bolivia (BO)

Sociedad Boliviana de Bioquímica Clínica (SOBOBIOCLI)

Dr. Álvaro Justiniano Grosz

Presidente COLABIOCLI
Calle Antezana 847
Edificio Torre Atlanta, Piso 4 - Of. 11
Cochabamba
Bolivia
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sociedad.bioquimica.bolivia@gmail.com
Website: www.sobobiocli.com

Bosnia Herzegovina (BA)

Association of Medical Biochemists in Bosnia-Herzegovina

Dr. Sci. Chem. Jozo Coric

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Bosnia-Herzegovina
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Website: www.umbbih.ba

Brazil (BR)

Sociedade Brasileira de Análises Clínicas (SBAC)

Dr. Maria Elizabeth Menezes

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Rio de Janeiro - RJ - Brazil
E-mail: geral@sbac.org.br
Website: www.sbac.org.br

Bulgaria (BG)

Bulgarian Society of Clinical Laboratory Assoc. Prof. Dr. Yana Bocheva, MD, PhD

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9010 Varna - Bulgaria
E-mail: y_bocheva@yahoo.com
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Canada (CA)

Canadian Society of Clinical Chemists (CSCC)

Société Canadienne de Clinico-Chimistes

Dr. Ted Dunn

President

Director, Product and Service Development
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SCC Head Office

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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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Website: www.cslm.org.cn

China (TW) - Republic of China (ROC) - Taiwan

Chinese Association for Clinical Biochemistry (CACB)

Dr. Woei-hong Fang

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and Medical Biotechnology
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University
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Website: www.cacb.org.tw

Colombia (CO)

Colegio Nacional de Bacteriología CNB - Colombia

Dr. Marlene Vélez de la Vega

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Bogotá - Colombia
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Website: www.cncolombia.org

Croatia (HR)

Croatian Society of Medical Biochemistry and Laboratory Medicine

Jasna Leniček Krleža Ph.D

European Specialist in Laboratory Medicine,
EuSpLM
Croatian Centre for Quality Assessment in
Laboratory Medicine, Chair
Croatian Society of Medical Biochemistry and
Laboratory Medicine, Vice-President
Children's Hospital Zagreb, Head of Medical
Biochemistry and Hematology Department
Klaiceva 16
Zagreb - Croatia
E-mail: hdmblm@hdmblm.hr
Website: www.hdmblm.hr

Cuba (CU)

Cuban Society of Clinical Pathologists

Ms.C. Manuel Morejón Campa

Centro para el Control Estatal de Medicamentos
Equipos y Dispositivos Médicos
Calle 5.A, # 6020 e/60 y 62
Municipio Playa
La Habana, CP 11300 - Cuba
E-mail: mmcampa1950@gmail.com
Website: www.sld.cu/uvs/patologiaclinica/

Cyprus (CY)

Association of Clinical Laboratory Directors, Biomedical and Clinical Laboratory Scientists

Ms. Spyroula Christou

13B, Vasilis Michaelides Str.
3026 Lemesos - Cyprus
E-mail: spyroulax@primehome.com
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Czech Republic (CZ)

Czech Society of Clinical Biochemistry (CSKB)

Richard Pikner, M.D., Ph.D.

Head Dept. of Clinical Laboratories and Bone Metabolism
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Denmark (DK)

Danish Society of Clinical Biochemistry (DSKB)

Dr. Lise Bathum

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Dominican Republic (DO)

Colegio Dominicano de Bionalistas (CODOBIO)

Licda. Antonia Surriel

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Website: http://codobio.com.do

Ecuador (EC)

Sociedad Ecuatoriana de Bioquímica Clínica (SEBIOCLI)

Dr. Francisco Vallejos

President
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Egypt (EG)

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

Prof. Mohamed Shaarawy

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Website: www.escs-eg.org

Estonia (EE)

Estonian Society for Laboratory Medicine

Dr. Karel Tomberg

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Ethiopia (ET)

Ethiopian Medical Laboratory Association (EMLA)

Dr. Berhanu Seyoum

President
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Addis Ababa - Ethiopia
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Web: www.emlaeth.org

Finland (FI)

Finnish Society of Clinical Chemistry (SKKY)

Prof. Päivi Laitinen
Chief Chemist, Adjunct Professor
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PO Box 720, HUSLAB-talo
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Helsinki - Finland
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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
CHU de Reims
Pôle de Biologie Territoriale
Rue du Général Koenig
51092 Reims Cedex - France
E-mail: pgillery@chu-reims.fr
Website: www.sfbc-asso.fr

Georgia (GE)

Laboratory Medicine Association of Georgia (GLMA)

Dr. Maia Khutsishvili
Oncology Research center
S. Khechinashvili University Hospital
Head of Laboratory
Tbilisi - Georgia
E-mail: maiakhutsishvili@hotmail.com

Germany (DE)

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

Prof. Dr. med. Maria Klouche
Friesdorfer Straße 153
53175 Bonn - Germany
E-mail:
mariam.klouche@laborzentrum-bremen.de
Website: www.dgkl.de

Greece (GR)

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

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

Guatemala (GT)

Asociación de Químicos Biólogos de Guatemala

Dra. Alba Marina Valdés de Garcia
1a. avenida 10-43 zona 10
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Guatemala - Guatemala City
E-mail: gerencia@aqbg.org
Website: www.aqbg.org

Hong Kong (HK)

Hong Kong Society of Clinical Chemistry (HKSCC)

Dr. Jeffrey SS Kwok
Department of Chemical Pathology
Prince of Wales Hospital
Shatin, NT - Hong Kong
E-mail: kss207@ha.org.hk
Website: www.medicine.org.hk/hkscs

Hungary (HU)

Hungarian Society of Laboratory Medicine (MLDT)

Dr. Ágnes Péterfalvi
University of Pécs
Clinical Centre
Department of Laboratory Medicine
Ifjúság street 13
H-7624 Pécs - Hungary
E-mail: agnes.peterfalvi@gmail.com
Website: www.mldt.hu

Iceland (IS)

The Icelandic Society for Laboratory Medicine

Dr. Leifur Franzson
Department of Clinical Biochemistry
Landspítali-University Hospital
Hringbraut
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3.2 PROFILES OF IFCC CORPORATE MEMBERS**Abbott**

Abbott is a global healthcare leader that helps people live more fully at all stages of life. The company's portfolio of life-changing technologies spans the spectrum of healthcare, with leading business and products in diagnostics, medical devices, nutritionals, and branded generic medicines. The company employs nearly 107,000 people and markets its products in more than 160 countries. Abbott 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

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

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

Becton Dickinson

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 healthcare 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 more than 70,000 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/

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 Researches) 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

ET Healthcare Inc.

ET Healthcare Inc. is an IVD Company initially focusing on the China clinical market. We offer a POCT/near patient system, Pylon, for cardiac and inflammation markers. Website: www.ethealthcare.com.cn

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 global leader in the field of high-quality in vitro diagnostics (IVD) testing. It has more than 50 years' accumulated experience in the conception, development, production and worldwide commercialization of robust IVD products.

Founded in 1950 in Tokyo, Japan, Fujirebio has over the years concluded a number of successful acquisitions of best-in-class IVD companies. Examples include Centocor Diagnostics in 1998, CanAg Diagnostics in 2006 and Innogenetics in 2010. Today, Fujirebio's global presence includes offices in the United States, Latin America, Europe, and Asia as well as a vast international distribution network.

Fujirebio has a strong and long-lasting tradition of collaborating with experts in the worldwide clinical community in the development of high-quality routine and truly novel

biomarkers that cover a variety of disease states. Its IVD product lines span the range from specialized manual and automated testing to fully automated routine clinical laboratory testing solutions.

Fujirebio is today an H.U. Group company (listed on the Tokyo Stock Exchange – TYO: 4544) and employs more than 1.200 people in Asia, Europe, and America.

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.com

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.

HyTest Ltd.

HyTest produces antibodies and antigens for the IVD industry for use as key components of various laboratory assays and kits. The company has gained a market leading position in several key market segments, including cardiac markers and infectious diseases testing reagents. HyTest is a leading provider of several reagents such as antibodies and antigens of the troponin I and troponin complex. HyTest's products are sold in no less than 50 countries throughout the world. Its success has been based on significant R&D investments combined with a strong sales and marketing mix. More information at: www.hytest.fi

Immunodiagnostic Systems - IDS

IDS is a leading in-vitro diagnostic solution provider to the clinical laboratory market. We develop, manufacture and market innovative immunoassays and automated immunoanalyser technologies to provide improved diagnostic outcomes for patients. Our immunoassay portfolio is a combination of an endocrinology specialty testing menu and assay panels in complementary fields. The portfolio is available as a combination of tests available for use on our fully-automated systems, or as stand-alone test kits. This complete offering meets the needs of both clinical and research laboratories of all types and sizes, with their diagnostic testing requirements.

Our IDS heritage within certain endocrinology fields, including vitamin D testing, offers a solid platform on which to develop a market-leading endocrinology menu for Bone Metabolism, Calcium Metabolism, CKD-MBD (Chronic Kidney Disease & Mineral Bone Disorders), Fertility, Growth Disorders and Hypertension. Through partnership, we develop a broader complementary menu, extending into other clinical areas such as Allergy, Autoimmunity, and Infectious Disease.

Website: www.idsplc.com/

Instrumentation Laboratory

Instrumentation Laboratory is integral part of Werfen, a worldwide leader in *in vitro* diagnostics (IVD) in the specialties of Hemostasis, Acute Care Diagnostics and Autoimmunity. IL develops, manufactures, and distributes instruments, related reagents, and data management solutions for hospitals around the world-at the point of care and in the laboratory. IL solutions include Hemostasis and Acute Care Diagnostics systems and services, all designed with a common goal: to help healthcare providers enhance patient care and efficiency.

Website: www.instrumentationlaboratory.com

Labtronic

Labtronic was established in 2009 to promote clinical diagnostic laboratory equipment and reagents. We work only with trusted manufacturers of laboratory equipment and reagents who have established themselves as leaders in the field of in-vitro diagnostics: Boule Medical AB (Sweden), Diasys Diagnostic Systems GmbH (Germany), 77 Elektronika Kft (Hungary), Beckman Coulter (USA), Helena Biosciences Europe (Great Britain), Sartstedt (Germany), Eschweiler GmbH & Co. KG (Germany), DRG Instruments GmbH (Germany), Biotek Instruments Inc (USA), Gold Standard Diagnostics Corp (USA), Erma (Japan).

Website: www.labtronic.me and www.labtronic.eu

LumiraDx

LumiraDx develops, manufactures, and commercialises an innovative point-of-care diagnostic Platform. The LumiraDx Platform is designed to deliver lab comparable diagnostic results at the point of care in minutes. It is designed to be affordable and accessible for healthcare providers globally, and to strengthen community-based healthcare.

Website: www.lumiradx.com

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

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/

Megalab, JSC

Megalab was founded in 2017 by “Georgian Healthcare Group”. It is the first multidisciplinary laboratory in the region, combining clinical and pathological departments. The laboratory is designed according to the JCI (Joint Commission International) standard, which is the highest accreditation body for medical institutions in the United States. 20 million GEL was invested in the creation of Megalab.

Foreign partners took part in the creation of “Megalab”, which will continue to actively participate in the process of quality development and maintenance. Among them, are such international brands Labpon (Netherlands), BioLab (Jordan).

In Megalab you can find equipment from well-known manufacturers such as Siemens, Leika, Carl Zeiss, Thermofisher, BioMérieux and more.

It is a laboratory hypermarket where it is possible to perform any test necessary for humans, including newly introduced high-tech areas: digital and molecular diagnostics. Also analysis of any type of biological material.

The laboratory has about 150 highly qualified staff. Among them are leading Georgian specialists working in Europe. Megalab constantly strives to improve the qualifications of its staff with the help of various international or local trainings. In addition, Megalab promotes the upbringing of the next generations, the education and employment of students and residents, as part of the development of corporate social responsibility. Since January 2019, the laboratory has been cooperating with about 100 medical institutions, including leading hospitals. Today Megalab already serves more than 3.000 patients a day, although the capacity of the laboratory exceeds 6 million different profile tests per year.

Website: www.megalab.ge

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 is a leading global developer of medical devices and solutions, dedicated to making better healthcare more accessible to humanity. Since its foundation in 1991, Mindray has been exclusively focused on the medical industry in the fields of Patient Monitoring & Life Support, In-Vitro Diagnostics, and Medical Imaging. In 2006, Mindray was listed on the New York stock exchange under the ticker symbol MR.

Headquartered in Shenzhen China, Mindray is a multinational corporation with subsidiaries in 33 countries in North and South America, Europe, Africa, and the Asia-Pacific region. The company's products and services can be found in healthcare facilities in over 190 countries.

Driven by innovation, Mindray has built up a global R&D network with 10 research centers in the US, Europe, and China. Focused on fully understanding the needs of both patients and practitioners, Mindray's insightful innovation produces ergonomically optimized medical devices that are readily accessible by the healthcare practitioner, allowing doctors and nurses to focus on the patient, not the machine.

Mindray closely controls all aspects of R&D and production, from design through to manufacturing of the final product. An integrated in-house production facility ensures the highest quality and also reduces costs, maximizing value for customers and ultimately making healthcare accessible to more people.

For detailed information please visit our web site: 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 co-operations 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

Nittobo Medical Co. Ltd.

Nittobo Medical Co. Ltd., based in Koriyama, Japan, was established in 1987. We have been focusing on developing immunoturbidimetric and colorimetric reagents for IVD, as well as functional polymers, which are industrial specialty chemicals.

Our IVD reagents are distinguished by both high quality and stable supply, due to their production, from the main raw materials to the finished products, being completely managed within the Nittobo Group, in an integrated manner. Under the “N-assay” brand, we offer a rich product line-up to meet clinical needs, such as CRP, IgG, IgA, IgM, C3, C4, Urinary albumin, PreALB, RBP, etc. Further, we have developed the new ELISA kit for the “TRAP-5b (TRACP-5b)” bone resorption marker, which is used as a supplementary indicator for treatment of metabolic bone disease such as osteoporosis. Recently, we added “Rapid BACPro™ II” to our product list. This is a completely novel preparation kit for rapid identification of bacteria, using proprietary cationic polymer technology.

We will continue to contribute to the creation of a prosperous society by increasing the value of our social presence.

For more information about our products, visit: www.nittobo-nmd.co.jp/english/top.html

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 have 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 are 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

PerkinElmer

PerkinElmer is a global company committed to innovating for a healthier world. Our dedicated team of employees worldwide is passionate about helping customers work to create healthier families, improve the quality of life, and sustain the well-being and longevity of people globally.

PerkinElmer Diagnostics Segment:

- Test expectant mothers for pregnancy-related health risks and fetal abnormalities
- Screen newborn babies for genetic mutations that are associated with life-threatening disorders
- Accelerate detection of rare diseases, autoimmune disorders, allergies, and infectious diseases. Together, we are making a difference for the better.
- Last year, 35 million babies in over 90 countries were screened using PerkinElmer tests, saving the lives of more than 70 babies each day on average.

To date, more than 700 million babies have been tested for life-threatening diseases using PerkinElmer's newborn screening tools.

Website: www.perkinelmer.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 is 420 samples a minute, 25, 200 samples an hour, 604, 800 samples a day. That is 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.

com. For information about the latest trends in acute care testing, visit www.acutecaretesting.org, Radiometer's knowledge site.

Randox Laboratories Ltd.

For almost 40 years Randox have been at the forefront of clinical diagnostics, leading the way with our disruptive technology and versatile product offering. With speed, accuracy and reliability at its core, our product range comprises; third party quality controls, the world's largest EQA scheme, over 113 diagnostic reagents and clinical chemistry analysers ranging from low throughput to high throughput.

With applications in molecular diagnostics, immunoassay, and forensic toxicology testing, Randox patented biochip technology is capable of simultaneously detecting hundreds of targets from a single patient sample. Complete patient profiling in this way facilitates faster patient testing, earlier diagnosis and improved patient pathways. Our commitment and significant re-investment in R&D mean that Randox have more new tests in development than any other manufacturer. Novel assays for stroke differentiation, Alzheimer's Disease risk, Acute Kidney Injury, Chronic Kidney Disease and Bladder Cancer are among just some of the niche tests available.

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. Thirty-two medicines developed by Roche are included in the World Health Organization Model Lists of Essential Medicines, among them life-saving antibiotics, antimalarials and chemotherapy.

In 2019 the Roche Group employed approximately 100,000 people worldwide, invested more than 11 billion Swiss francs in R&D and posted sales of approximately 60 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: 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

For 40 years SEKISUI Diagnostics has been committed to 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 sales channels and our distribution/business partners. Our product lines include clinical chemistry reagents, coagulation systems and reagents, point-of-care molecular, rapid tests and immunoassay system as well as 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.sentinel diagnostics.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

Shenzhen YHLO Biotech Co., Ltd

YHLO (EST. 2008) is an innovative and steadfastly growing company headquartered in Shenzhen, China.

To be a reliable and respected IVD enterprise, YHLO has put extensive investments in R&D and firmly associated with the top-tier universities, medical schools, and research institutes worldwide on scientific studies. With over a decade's continuous development expertise in immunoassays solution, YHLO provides a broad range of instruments (based on Chemiluminescence, ELISA, Immunoblot and Immunofluorescence methodologies) with patented technologies and outstanding features, as well as a comprehensive total solutions with portfolios in fertility and reproductive health, diabetes, infectious diseases, autoimmune disorders and other novel assays on rare diseases analysis. Since the COVID-19 pandemic outbreak, YHLO has taken a fast response and launched series of assays to assist people around the world in large

scale screening test.

Thanks to its premium quality management, YHLO has complied by international standards, ISO 9001:2015, ISO 13485:2016, KGMP of Korea, TGA of Australia, etc. To date, YHLO has a global presence by over 85 countries around the world, our strategic alliances with multinational corporations enable us to be more competitive.

Moreover, YHLO has in-depth cooperation with global research partners in Europe, USA, Japan and Australia, with aim of developing advanced technologies and create more medical value for health and vitality of people all over the world.

Website: www.szyhlo.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

Shenzhen New Industries Biomedical Engineering Co., Ltd (briefed as Snibe) is a leading global in-vitro diagnostic biomedical company. Snibe has focused on the Chemiluminescent immunoassay (CLIA) field for more than 26 years. We are providing customized diagnostic solutions to laboratories for more than 145 countries and regions. Over 15000 units of Snibe's products have been installed in hospitals and labs worldwide, including global chain labs like Synlab, Eurofins, Cerba, Synevo, etc. Snibe established 4 core R&D centers, including reagent, instrument, magnetic microbead, and reagent raw material to lay a solid foundation for developing the broadest range of CLIA analyzers and test menu. We successfully developed one of the fastest CLIA analyzer in the world - MAGLUMI X8 with the throughput of 600T/H in 2018. In order to meet the demand of mega-laboratories, Snibe announced a strategic partnership with Thermofisher and Hitachi to launch the Total Laboratory Automation solution in 2019. Moreover, to help the fight against COVID-19, Snibe successfully developed the 2019-nCoV (SARS-CoV-2) CLIA Kits in 2020, the first of its kind in the world to received CE mark.

Our Mission is "Creating value for human health through continuous innovation".

Find out more at: www.snibe.com

Sysmex Europe GmbH

Sysmex supports healthcare professionals around the world in lighting the way with diagnostics by providing a broad range of medical diagnostics products and solutions. In the fields of haematology, urinalysis, haemostasis, oncology, flow cytometry and essential healthcare, we combine highly dependable, multi-functional and easy-to-operate instruments, a variety of reagents and software, plus reliable service, and support.

Sysmex Europe GmbH, located near Hamburg, Germany, is a subsidiary of the Sysmex Corporation from Kobe, Japan. From our Hamburg offices, we serve our affiliates, distributors and customers throughout Europe, the Middle East, and Africa (EMEA). For more information on how we are shaping the advancement of healthcare, visit: www.sysmex-europe.com.

Technogenetics

Technogenetics is an innovative company that has been operating for over 30 years in the fields of diagnostics research and biotechnologies.

Technogenetics mission is to contribute every day to medical and scientific progress by developing cutting-edge solutions and producing public and private test laboratories.

Website: www.technogenetics.it/en

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/

Tosoh Corporation

Tosoh's diagnostic systems feature advanced immunoassay technologies such as the AIA & AIA-CL series of automated immunoassay analyzers, G series of glycohemoglobin analyzers, and molecular testing solutions that support the monitoring of such life-threatening disease as diabetes, certain cancers, and microbial infections.

They also feature integrated essential hardware and software uncompromising value through global customer support that includes ensuring the ready availability of the systems' consumable items, namely AIA-PACK & AIA-CL-PACK reagent cups.

Website: www.tosohbioscience.com/clinical-diagnostics

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

Wuhan Life Origin Biotech Joint Stock Co., Ltd. – Szybio

Wuhan Life Origin Biotech Joint Stock Co., Ltd. is a high-tech enterprise specialized in research and development, production and sales of IVD reagents for medical clinic. Our company owns research and development technology platforms such as chemiluminescence, conventional chemistry, latex turbidity and POCT. Our company has more than 300 employees, more than 30 masters and doctors, and has built a nearly 1000 squares of “clinical in vitro diagnostic reagent research and development center” and purification plant. Our company has more than 80 item of medical device registration certificate, covering cardiac, renal, blood lipid, liver function and so on.

Website: www.szybio.com/

Chapter 4

Affiliate Member Societies

4.1. AFFILIATE MEMBERS OF IFCC

Brazil (BR)

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

Dr. Carlos Eduardo dos Santos Ferreira

Presidente

R. Dois de Dezembro, 78, sala 909

Catete - CEP 22220-040

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**

Dr. Xuzhen Qin

Associate Director of Department of

Laboratory Medicine

Peking Union Medical College Hospital

No 1, Shuaifuyan, Wangfujing St

Beijing, 1000730

China

E-mail: qxz_01@163.com

Egypt (EG)

**The Egyptian Association of Health Care
Quality and Patient Safety**

Dr. Rania el Sharkawy

Professor of Chemical Pathology

President of the Association

Quality Director of Medical Research Institute

Laboratories

MRI-Alexandria University

El- Hadra, Alexandria

Egypt

E-mail: raniashark@yahoo.com

France (FR)

**LABAC - French National Network of
accredited Laboratories of Medical Biology**

Dr. Jean-Marc Giannoli

6 Place C Hernu

69100 Villeurbanne

France

E-mail: jeanmarc.giannoli@biogroup.fr

Website: www.labac.eu

India (IN)

**Association of Medical Biochemists of
India (AMBI)**

Dr. Shanthi Naidu Kamatham

c/o Dr. V. Govindaraju

285 1st Floor, 16th Main, 12th Cross, F Block

Sahakar Nagar

Bangalore – 560092 - India

E-mail: naidukambi@gmail.com

Website: www.ambi.co.in/

Iran (IR)

**Iranian Association of Clinical Laboratory
Doctors (IACLD)**

Dr. Seyyed Mehdi Boutorabi

Islamic Republic of Iran

E-mail: info@iacld.ir

Website: www.iacld.ir

Jordan (JO)

**Society for Medical Technology &
Laboratories**

Dr. Reem Jamil Abu-Ihmaid

President

Postal Code 11947 - Post box 886

Amman - Jordan

Kazakhstan (KZ)

**Public Association - Federation of
Laboratory Medicine (FLM)**

Dr. Zhanar Nurlanovna

President

Saryarka district

Zhenis Avenue, 75/1

Astana City - 010000 - Republic of Kazakhstan

E-mail: flmastana@mail.ru

Website: www.flm.kz/

Mexico (MX)

**Federación Nacional de Químicos Clínicos
(CONAQUIC A.C.)**

M.C. Alejandra Anilben Cano Huizar

Privada Cuapa 3236-B

Colonia Santiago Momoxpan

San Pedro Cholula

Puebla72706 - Mexico

E-mail: presidencia@conaquic.com

Website: www.conaquic.com

Nepal (NP)
**Nepalese Association for Clinical
Chemistry**

Dr. Ram Vinod Mahato

General Secretary
Kathmandu Metropolitan City
Ward No.35
Kathmandu
Nepal
E-mail: nacc2070@gmail.com
Website: www.nacc.org.np/

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

Elizabeth Y. Arcellana-Nuqui, MD, FPSP

Chair, Committee on Advocacy and External
Relations
PCQACL Past President
PSP Bldg. Unit C
114 Malakas Street, Diliman
Quezon City
Philippines
E-mail: secretariat.pcqacl@gmail.com
Website: www.pcqacl.com

Romania (RO)
**Order of the Biochemists, Biologists,
Chemists in Romanian Health System
(OBBCSSR)**

Dr. Constanta Popa, EuSpLM, PhD

President
Associate Professor
Faculty of Biology
Bucharest University
Romania
E-mail: presedinte@obbcssr.ro
Website: www.obbcssr.ro

Serbia (SRB)
**Serbian Society for Clinical Laboratory
Medicine and Science (SCLM)**

Ass. Prof. Sanja Stankovic

President
Višegradska str. 26
Belgrade
Serbia
E-mail: sanjast2013@gmail.com

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

Dr. Antonio Rider Pérez

President
C/Modesto Lafuente 3
28010 Madrid
Spain
E-mail: aefa@aefa.es
Website: www.aefa.es/

**Sociedad Andaluza de Análisis Clínicos
(SANAC)**
Andalusian Society of Clinical Analysis

Dr. Cristóbal Avivar Oyonarte

President
Director Área Integrada de Gestión de
Biotecnología
Agencia Pública Empresarial Sanitaria
Hospital de Poniente
Ctra. de Almerimar s/n
04700 El Ejido (Almería)
Spain
E-mail: cristobal.avivar@ephpo.es
Website: www.sanac.org

Sri Lanka (LK)
College of Chemical Pathologists (CCPSL)

Dr. Rajitha Samarasinghe

President
No. 112, Model Farm Road
Colombo 08
Sri Lanka
E-mail: rsamarasinghe@gmail.com
Website: www.ccpsrilanka.com

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

Prof. Dr. Necip İlhan

Maslak Mah. AOS 55
Sok. No:2, 42 Maslak A
Blok D: 231
Sarıyer
Turkey
E-mail: necipilhan@hotmail.com
Website: www.kbud.org.tr/

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

Dr. Volodymyr Saganenko
AQALM Head of Supervisory Board
1 Chornovil str., 28/1
Kyiv 01135
Ukraine
E-mail: vsaganenko@yandex.ru

Chapter 5

Regional Organisations

5. REGIONAL ORGANISATIONS

There are six professional laboratory medicine organisations, which are IFCC regional partners:

- African Federation of Clinical Chemistry (AFCC)
- Arab Federation of Clinical Biology (AFCB)
- Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)
- European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)
- Latin-American Confederation of Clinical Biochemistry (COLABIOCLI)
- 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 2021, after more than 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 22 Corporate Members.

The following Full Members:

- Australasian Association for Clinical Biochemistry and Laboratory Medicine (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)
- Malaysian Association of Clinical Biochemists (MACB)
- Mongolian Association of Health Laboratorians (MAHL)
- 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 twenty-two in-vitro diagnostic companies, comprising global multinational, regional and local companies. Our corporate partners support the APFCB in many of its activities.

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 memoranda of understanding with the World Association of Societies of Pathology and Laboratory Medicine (WASPaLM) and the American Association for Clinical Chemistry (AACC).

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 a key resource for member associations, enabling information and technology transfer within the region. Due to the Covid-10 pandemic, the APFCB travelling lecturer program lectures is delivered virtually since 2020.

The pandemic has also disrupted some of the planned activities of the APFCB. The 16th APFCB Congress in 2022 which is planned to be held in Sydney, Australia has been postponed. In its place, the APFCB will have a joint event with the IFCC WorldLab in Seoul, Korea in 2022. The 16th APFCB Congress in Sydney, Australia will be held in 2024 and the 17th APFCB Congress in Kuala Lumpur will move to 2026.

Early this year, the education and laboratory management committee has made available a two-day virtual workshop on Laboratory Testing of COVID-19 to help lab professionals with appropriate guide in COVID-19 testing. Details of our ongoing scientific and educational activities are on the APFCB website and our communications committee will feature a rich array of articles, reports and interesting information.

I strongly encourage you to visit all the sections of our website at www.apfcb.org

APFCB activities are also available on social media as follows:

Facebook Page: <https://www.facebook.com/APFCB/>

Twitter: https://twitter.com/APFCB_LM

Instagram: https://www.instagram.com/apfcb_lm

LinkedIn: <https://www.linkedin.com/company/apfcb/>

YouTube: <https://www.youtube.com/channel/UCoiicTsnVX-COjklgZHQ54Q>

An ongoing activity which was initiated in 2020 that I would also like to highlight is the Masterclass in Interpretative Commenting on Clinical Chemistry reports. These webinar series discuss and analyse interpretative comments and educate laboratory professionals on the addition of interpretative commenting. The resource material and the recordings of these webinars are available on the APFCB website under the heading of Webinars:

<https://www.apfcb.org/webinars.html>.

In this brief introduction to the APFCB, I would like to end by indicating that 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.

To everyone else outside the Asia Pacific, I do welcome you to engage the federation, collaborate with us, participate in our activities, and become part of the family.

APFCB President

Dr. Sunil Sethi

Group Chief, Laboratory Medicine

National University Health System (NUHS)

Head Clinical Chemistry

Department of Laboratory Medicine - National University Hospital

5 Lower Kent Ridge Road - Singapore 119074

E-mail: patsks@nus.edu.sg - Website: www.apfcb.org

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 also 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, Peru, Ecuador, Uruguay and Panama. 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
- Provide control material and of course, to develop them
- Seminar on the Management of External Quality Assessment
- Training courses for tutors on Quality Management System
- Participation in National Congresses and organisation of Latin American Congress
- Financing of visiting lecturer, 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.

On occasion of the Ordinary General Assembly of COLABIOCLI that took place in Panama City on September 12, 2019, during the XXIV Latin American Congress of

Clinical Biochemistry, at the Megapolis Convention Center, the election of the authorities of the Executive Committee for the next biennium, coming from the National Entities members of the countries that make up the COLABIOCLI was made.

The Executive Committee is composed by below mentioned Members:

AUTHORITIES COLABIOCLI (2020-2022)

President: Dr. Álvaro Paul Justiniano Grosz (Bolivia)

Vice-President: Dr. Luiz Fernando Barcelos (Brazil)

Secretary: Dr. Rosa Inés Escalier Torrejón (Bolivia)

Treasurer: Dr. Lisandra Katya Morales Jurado (Bolivia)

Member: Mgter. Jovanna Borace (Panama)

Member: Dr. María Elena Arredondo (Chile)

Member: QF Fernando Antúnez (Uruguay)

Past President: Dr. QF Stella Raymondo (Uruguay)

COLABIOCLI has developed the following programmes: (1) Quality Management; (2) for standard operating procedures, (3) documents laboratory (4) internal control and external quality assessment, (5) internal and external audits, (6) continuing education and training, (7) biosafety standards, (8) 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 First Edition 2005 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 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. To actively involve of health authorities, continuity of local distance learning programmes, and implementation of national and international guidance for the accreditation programme.

In addition to these programmes, COLABIOCLI, implements and administers a programme of visiting professors. This programme ensures participation of Lecturers in the Congress of the National Institutions that require it, according to your 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.

COLABIOCLI President

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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 subregional bodies.

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 41 countries: Albania, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, 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 7 Affiliate Members and 1 Provisional Member.

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) and Task Forces (TF). 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. Membership and corresponding membership in 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:

- *Autoimmunity Testing (WG-AT)* which harmonises the measurement and use of autoimmunity tests.
- *Biological Variation (WG-BV)* which explores the sources of variation in and develops a critical appraisal checklist for papers on biological variation. This WG has two subgroups:
 - Task Group: Biological Variation Database, responsible of the EFLM Biological Variation database;
 - Task and Finish Group: Practical Approach to Measurement Uncertainty with the aim to determine the major components of measurement uncertainty of common laboratory tests and the procedure of data collection.
- *Cardiac Markers (WG-CM)* which encourages and monitors the implementation and harmonisation of international guidelines on the use of laboratory tests for cardiovascular prevention, prognosis and diagnosis.
- *Harmonisation (WG-H)* aims to act as a collector of the harmonisation 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.
- *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. This WG has a subgroup:
 - Task and Finish Group: Hemolysis, Icterus and Lipemia (HIL) interference with the aim to collaborate with IVD manufacturers to improve the quality and scope of the data on HIL indices provided to end-users of laboratory reagents and equipment.

- *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. This WG has a subgroup:
 - Task Group: Performance Specifications Based on Outcome Studies with the aim to set analytical performance specifications (APS) for measurands based on outcome studies.
- *Urinalysis (WG-U)* which promotes standardisation and high-quality procedures that can improve clinical utilisation of laboratory tests and the development of new urinalysis technologies.

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 with UEMS. The Committee organises 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 the European Commission on professional matters and takes the lead in developing pan-European professional and ethical standards. The Committee currently has two functional units on:

- *Register (WG-R)*, which manages the Register of European Specialists in Laboratory Medicine (EuSpLM).
- *EFLM Syllabus Course (TG-ESC)*, responsible to deliver and maintain an on-line revision course designed to increase the knowledge and exam confidence for postgraduate students or for any person looking to enhance knowledge on a specific topic.

In 2020, under this Profession Committee, a new initiative has been established: **the**

EFLM Academy: a package of professional benefits for Specialists in Laboratory Medicine supporting their education, training and continuous professional development. The EFLM Academy encompasses the European Register of Specialist in Laboratory Medicine for those who meet the equivalence of standards in education and Training as set by EFLM.

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 carry on its activities via its Working Group on Promotion and Publications (WG-PP). It has also a Task Group dedicated to Young Scientists.

EFLM has also three **Task Forces (TF)**:

- **European Regulatory Affairs (TF-ERA)**, with the main aim to guide the transition to the IVDR per May 2022 at a strategic level by creating a governance structure and by being "at the table" and involved for future EC regulations, meetings and consultations.
- **Disruptive Technologies in Laboratory Medicine (TF-DT)**, which aims to develop strategies for the integration of technologies changing Laboratory Medicine into standard diagnostic care within the Federation and between EFLM member societies and other targeted audiences.
- **Laboratory Medicine for Mobile Societies** in cooperation with the Arab Federation of Clinical Biology, with the aim to harmonize laboratory strategies to monitor health and to detect communicable and non-communicable disease in people mobility and migration.

Awards.

EFLM has six awards:

- *The EFLM Award for Scientific Achievements in Laboratory Medicine - sponsored by Roche.* This award is to honour an individual, member of an EFLM National Societies, who has made important scientific contributions and innovations within the field of Clinical Chemistry and Laboratory Medicine. The EFLM award is granted for excellent work in basic, translational or clinical research to promote diagnostic medicine. It appreciates significant research contributions that advance the field in biochemical and molecular analytics and methods, digitalisation, new diagnostic strategies, health technology assessment etc. The award is given every two years on occasion of the EuroMedLab congress and is financially supported by Roche with an amount of 5,000 Euros.
- *The EFLM Award for Achievements in Advancing Laboratory Medicine in Europe - sponsored by Roche.* This award has been created to recognise an individual, member of an EFLM National Societies, who has made important contributions to advance the profession of Clinical Chemistry and Laboratory Medicine in Europe and to enhance the visibility of the discipline within diagnostic and therapeutic medicine. Such outstanding work includes e.g. the promotion of interoperable programs between EFLM member societies, professional development, dissemination and teaching, increasing the visibility of Laboratory Medicine or the harmonisation of training curricula of the different professions within Clinical Chemistry and Laboratory Medicine. The award is given every two years on occasion of the EuroMedLab congress and is financially supported by Roche with an amount of 5,000 Euros.
- *The EFLM Award for Excellence in Outcomes Research in Laboratory Medicine -*

sponsored by Abbott. The Award is given to the best published paper, as judged by an independent panel of experts, which demonstrates improved clinical and/or economic outcomes of an in vitro diagnostic test or better management of laboratory/test data. The award is given every two years on occasion of the EuroMedLab congress and is financially supported by Abbott with an amount of 5,000 Euros.

- *The EFLM Award for Excellence in Performance Specifications Research - sponsored by Abbott*. The Award is given to the best published paper, as judged by an independent panel of experts, which demonstrates an important and novel contribution to the theory or practical application of performance specifications. The award is given every two years on occasion of the EuroMedLab congress 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, member of an EFLM National Societies, 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, as judged by an independent panel of experts. The award is given every two years on occasion of the EFLM Preanalytical Conference and 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 40 years of age, member of an EFLM National Societies, for remarkable scientific work in the field of cardiovascular diseases. The award is given every two years on occasion of the EuroMedLab congress 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 its own Corporate membership policy 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 organisations: AACC (American Association of Clinical Chemistry), AACB (Australasian Association of Clinical Biochemists), AFCB (Arab Federation of Clinical Biology), BioMedAlliance (Biomedical Alliance in Europe), CEN & CENELEC, CLSI (Clinical and Laboratory Standards Institute), COLABIOCLI (Latin America Confederation of Clinical Biochemistry), EC (European Commission), EA (European co-operation for Accreditation), EAS (European Atherosclerosis Society), EASI (European Autoimmunity Standardization Initiative), EIBIR (European Institute for Biomedical Imaging Research), EMA (European Medicine Agency), EQALM (External Quality Assurance Programmes in Laboratory Medicine), ESR (European Society for Radiology), ISO (International Organization for Standardization), MedTech Europe (European trade association for the medical technology industry), 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.

EFLM President

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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.

Among the aims of the Federation are to: tighten relationships between all those who work in the field of Clinical Laboratory all over the Arab world including:

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 organisations 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 by scientific and production institutions in the Arab world
8. organise scientific congresses, participate at both regional and national congresses in the Arab world, provide the organising countries with all the scientific support needed;
9. co-ordinate with the Council of Arab Ministers of Health on clinical laboratory scientific matters.
10. implement International Units;
11. provide support to IVD industry in the Arab world.
12. support 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 with regard to 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. Organisation of periodic scientific conferences in the field of clinical laboratory science and scientific symposia, seminars, exchange briefing visits, and contribute to the Arab national conferences, and provide adequate scientific support.
3. Issuing scientific documents and specialised publications.
4. Contribute in the formation 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, and support them.
5. Provide advice and expertise to the Arab production companies in the field of clinical laboratory reagents and equipment.
6. Support the programs of quality assurance in laboratory in the Arab world and exchange of information and provision of scientific advice and study the possibility of the use of international units.
7. Coordination with the Council of Arab Ministers of Health in matters of clinical laboratory science.
8. Work on the harmonisation of legislation and laws governing the work of the laboratory in different countries and make an agreement on a common definition of certificates of competence and work with the Arab Health Ministers for approval.
9. Cooperation and coordination with the World Health Organization in the curricula of rehabilitation, training, and quality assurance programs.
10. Proof of the presence in international and regional organisations concerned with the clinical laboratory sciences.

Membership:

Arab Federation of Clinical Biology accepts membership of organisations, associations, trade unions and professional associations that accept the AFCB Statute, and works to achieve its objectives and submit a request for enrolment that is not inconsistent with its basic system of the AFCB.

AFCB President**Dr. Osama Najjar**

General Director of Allied Health Professions Ministry of Health (MOH)
Palestine

E-mail: doctor91@hotmail.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:

- Egypt - Egyptian Society of Clinical Chemistry and Clinical Laboratory Sciences (ESCC)
- Egypt - The Egyptian Association of Health Care Quality and Patient Safety
- Ethiopia - Ethiopian Medical Laboratory Association (EMLA)
- Kenya - Kenyan Association of Clinical Chemistry
- 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 (SAACB)
- Sudan - Sudanese Association of Clinical Biology
- Tunisia – Société Tunisienne de Biologie Clinique (STBC)
- 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 coincided with the IFCC WordLab congress in Durban, South Africa in October 22 to 25 2017. The sixth congress was held in Marrakech, Morocco from 23rd to 27th September 2019. 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 laboratory and health care services to communities it serves. This is ongoing 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, Kenya and South Africa have been taking place. 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 few for further collaboration. Areas of major concern in Clinical Chemistry have been identified and to this end quality management courses have been organised in several member countries. The clinical case study program provided by the AACC has continued to be distributed to all AFCC member countries where it is being incorporated in the training of residents. The AFCC signed a MOU with the African Society of Laboratory Medicine in 2019 to collaborate on promoting training and education of laboratory professionals in the African continent.

AFCC President:

Prof. Rajiv Timothy Erasmus
Dept of Chemical Pathology
PO Box 19113

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Website: www.afccafrica.org

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 recognised 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

NAFCC Representative

Dr. Stephen Hill

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Canada
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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:
- American Diabetes Association (ADA)
- Bureau International des Poids et Mesures (BIPM)
- Clinical Laboratory Management Association (CLMA)
- Clinical and Laboratory Standards Institute (CLSI)
- Council of International Organisations of Medical Sciences (CIOMS)
- European Association for the Study of Diabetes (EASD)
- Guidelines for Uncertainty in Measurement (GUM) (JCGM WG1)
- International Association for Therapeutic Drug Monitoring and Clinical Toxicology (IATDMCT)
- International Committee for Standardisation in Haematology (ICSH)
- International Committee for Weights and Measures (CIPM)
- International Diabetes Federation (IDF)
- International Organisation for Standardisation (ISO)
- International Osteoporosis Foundation (IOF)
- 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 on Thrombosis and Haemostasis (ISTH)
- International Vocabulary in Metrology (VIM) (JCGM WG2)
- Joint Committee for Guides in Metrology (JCGM)
- Joint Committee on Traceability in Laboratory Medicine (JCTLM)
- Joint Research Centre of the European Commission (formerly IRMM)
- Kidney Disease Improving Global Outcomes (KDIGO)
- National Institute for Biological Standards and Control (NIBSC)
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
- National Institutes for Food and Drug Control (NIFDC)
- National Institute of Standards (NIST)
- SNOMED International (formerly IHTSDO)
- 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

- 7.4.10. Critical Role of Clinical Laboratories in COVID-19 PANDEMIC

7.5. Congress Guidelines and Other Documents

7.8. IFCC Auspices

7.9. IFCC General Conference

**CONGRESSES AND CONFERENCES
COMMITTEE (C-CC)**

Chair:

Prof. Päivi LAITINEN (FI)

Members:

Prof. Montserrat BLANES GONZALES (PY)
Dr. Antonio BUNO SOTO (ES)

Corporate Member:

Ms. Cheryl Jackson (US)

Consultant:

Dr. James WESENBERG (CA)

Corresponding Members:

M.C. Alejandra A. CANO HUIZAR (MX)
Dr. Woei-horng FANG (TW)
Dr. July KUMALAWATI (ID)
Prof. Helen MARTIN (AU)
Dr. Sarah ROBINSON (UK)
Prof. Aylin SEPICI DINCEL (TR)
Dr. Christos TSATSANIS (GR)

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
P. Laitinen	Chair	FI	1 st	2021 1 – 2023 12
M. Blanes Gonzáles	Member	PY	2 nd	2021 1 – 2023 12
A. Buño Soto	Member	ES	1 st	2021 1 – 2023 12
C. Jackson	Corp. Rep.	US	2 nd	2021 1 – 2023 12
J. Wesenberg	Consultant	CA		
A.Cano Huizar	Corr. Member	MX		
W.H. Fang	Corr. Member	TW		
J. Kumalawati	Corr. Member	ID		
H. Martin	Corr. Member	AU		
S. Robinson	Corr. Member	UK		
A.Sepici Dincel	Corr.Member	TR		
C.Tsatsanis	Corr. Member	GR		

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 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 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, 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 (ICCLM)

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
XVI	Seoul	KR	2022

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
XXV	Rome	IT	2023

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
XXV	Leon	MX	2022

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
XVI	Beirut	LB	2021

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
V	Lusaka	ZM	2021

7.4. IFCC Specialised Conferences

7.4.1. Critical Role of Clinical Laboratories in the COVID-19 Pandemic

The current pandemic has highlighted the critical role of clinical laboratory medicine, which until now has not been widely recognized within healthcare organizations or by the public. Clinical laboratory professionals continue to play a vital role in the diagnosis of SARS-CoV-2 infection, serological monitoring of individuals with past SARS-CoV-2 infection, and biochemical monitoring of hospitalized patients with COVID-19.

IFCC has established a Taskforce on COVID-19 to provide updates on epidemiology, pathogenesis, and diagnostics of COVID-19, as well as to develop practical recommendations for diagnostic testing and patient monitoring. Since establishment, the Taskforce has maintained an online Information Guide on COVID-19, which can be found on the IFCC website. This guide is updated biweekly, presenting the latest evidence on COVID-19.

IFCC will host a virtual IFCC Global Conference on COVID-19 on February 15-17, 2021. This virtual conference will bring leading experts around the world together to present the latest advances in COVID-19 diagnostics and therapeutics. The theme of this conference will be the Critical Role of Clinical Laboratories in the COVID-19 Pandemic.

The program, includes ten scientific symposia, covering physiology, diagnostics, therapeutics, and technology, as well as special presentations on the global response to COVID-19 in Africa, Asia-Pacific, Europe, Latin America, Arab Federation, and North America. There will be an industry panel with presentations from industry leaders on the latest IVD innovations and twelve educational industry workshops. Young investigators will have their own forum with presentations from young scientists worldwide. There is also an opportunity for scientific e-posters and virtual industry exhibits.

Conference organizing committee

Khosrow Adeli, CA (Chair)

Sergio Bernardini, IT

Andrea Horvath, AU

David Koch, US

Giuseppe Lippi, IT

Tomris Ozben, TR

Cheng-Bin Wang, CN

Corporate Representatives:

Rolf Hinzmann, Roche Diagnostics

Patricia Ravalico, Abbott Diagnostics

Regional Federation Representatives:

Rosa Sierra-Amor (COLABIOCLI)

Ana-Maria Simundic (EFLM)

Ann Gronowski (NAFCC)

Rajiv Erasmus (AFCC)

Sunil Kumar Sethi (APFCB)

Osama Najjar (AFCB)

Conference Organizing Secretariat (MZ Congressi):

Stefano Montalbetti

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 (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 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 website (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 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 Executive Board (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	Rungstedgaard	DK	1981
II	Rungstedgaard	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

C-CC Executive

Chair

Prof. Päivi LAITINEN

Adjunct Professor
HUS Diagnostic Center
HUSLAB Clinical Chemistry
Topeliuksenkatu 32, P.O. Box 720
FI-0029 HUS, Helsinki, Finland
E-mail: paivi.h.laitinen@hus.fi

VII

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Asunción, Paraguay
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Dr. Antonio BUÑO SOTO

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University Hospital La Paz
Paseo de la Castellana 261
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Clinical Scientist SA Pathology
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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)
- 8.2.27. Bone Metabolism (C-BM)

8.3. Scientific Division Working Groups

- 8.3.35. Standardisation of Hemoglobin A2 (WG-HbA2)
Joint Working Group with ICSH (International Council for Standardization in Haematology)
- 8.3.36. Carbohydrate-Deficient Transferrin (WG-CDT)
- 8.3.39. Standardisation of Albumin Assay in Urine (WG-SAU)
in collaboration with National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
- 8.3.40. Standardisation of Pregnancy-Associated Plasma Protein A (WG-PAPP A)
- 8.3.41. Growth Hormone (WG-hGH)
- 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)
- 8.3.49. CSF-Proteins (WG-CSF)
- 8.3.51. Commutability in Metrological Traceability (WG-CMT)
- 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)
- 8.3.60. Continuous Glucose Monitoring (WG-CGM)
- 8.3.61. Development of a Reference Measurement System for sustainable PT/INR Standardisation (WG-PT/INR)

**SCIENTIFIC DIVISION
EXECUTIVE COMMITTEE (SD-EC)**

Chair

Prof. Philippe GILLERY (FR)

Vice Chair

Prof. Christa M. COBBAERT (NL)

Secretary

Prof. Garry JOHN (UK)

Members

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

Corporate Representative

Dr. Michael ROTTMANN (DE)

European Commission – JRC Observer

Dr. Liesbet DEPREZ (BE)

ICHCLR Observer

Prof. Ian S. YOUNG (UK)

JCTLM Chair – SD Consultant

Dr. Greg MILLER (US)

NIBSC Consultant

Dr. Chris BURNS (UK)

NIFDC Observer

Dr. Yang ZHEN (CN)

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) | Y.B.L. Hansen (DK) |
| 8.2.11. Molecular Diagnostics (C-MD) | P. Ahmad-Nejad (DE) |
| 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) |
| 8.2.27. Bone Metabolism (C-BM) | E. Cavalier (BE) |

8.3. Working Groups

- | | |
|---|---------------------------------------|
| 8.3.35. Standardisation of Hemoglobin A2 (WG-HbA2)
Joint Working Group with ICSH (International
Council for Standardization in Haematology) | A. Mosca (IT) |
| 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 Institute of Diabetes
and Digestive and Kidney Diseases (NIDDK) | J. Seegmiller (US) |
| 8.3.40. Standardisation of Pregnancy-Associated Plasma
Protein A (WG-PAPP A) | S. Wittfooth (FI) |
| 8.3.41. Growth Hormone (WG-hGH) | M. Vos (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) | M. Steffes (US)
J. Seegmiller (US) |
| 8.3.43. Standardisation of Troponin I (WG-TNI) | R. Christenson (US) |
| 8.3.49. CSF-Proteins (WG-CSF) | J. Gobom (SE) |
| 8.3.51. Commutability in Metrological Traceability (WG-CMT) | 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) |
| 8.3.60. Continuous Glucose Monitoring (WG-CGM) | G. Freckmann (DE) |
| 8.3.61. Development of a Reference Measurement
System for sustainable PT/INR Standardisation
(WG-PT/INR) | C. Cobbaert (NL) |

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	2 nd	2020 01 - 2022 12
C. Cobbaert	Vice-Chair	NL	2 nd	2020 01 - 2022 12
G. John	Secretary	UK	1 st	2021 03 - 2023 12
B. Das	Member	IN	2 nd	2021 01 - 2023 12
K. Makris	Member	GR	2 nd	2020 01 - 2022 12
M. Plebani	Member	IT	2 nd	2020 01 - 2022 12
M. Rottmann	Corporate Member	DE	1 st	2020 03 - 2022 12
L. Deprez	European Commission JRC Observer	BE		
I. Young	ICHCLR Observer	UK		
G. Miller	JCTLM Chair / Consultant	US		
C. Burns	NIBSC Consultant	UK		
Y. Zhen	NIFDC Observer	CN		
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 to further its application in the provision of health services and the practice of medicine. The 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 seven 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
Y.B.L. Hansen	Chair	DK	1 st	2021 01 - 2023 12
S. Deveraj	Member	US	1 st	2020 03 - 2022 12
K. Furuta	Member	JP	1 st	2019 02 - 2021 12
F. Meric Yilmaz	Member	TR	1 st	2021 03 - 2023 12
E. van der Hagen	Member	NL	2 nd	2021 01 - 2023 12
G. Nordin	Consultant	SE		

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 utilisation 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

- Revision of Terms of reference
- To establish a Laboratory Information Data Model and a coherent concept system that will support comparisons of laboratory results.
- To provide an online platform that presents the principles and rules of the NPU terminology, including recommendations of measurement units to clinical laboratorians. The platform has been established on <https://labterminology.com/>, and is under development.

8.2.11. Molecular Diagnostics (C-MD)

Membership

Name	Position	Country	Term	Time in Office
P. Ahmad-Nejad	Chair	DE	2 nd	2021 01 - 2023 12
K. Baluchova	Member	SK	1 st	2019 02 - 2021 12
M. Linder	Member	US	2 nd	2021 01 - 2023 12
A. Vacaflares Salinas	Member	BO	1 st	2020 03 - 2022 12
S. Pan	Member	CN	1 st	2021 05 - 2023 12
J. Huggett	Consultant	UK		
D. Payne	Consultant	US		
M. Relling	Consultant	US		
C. Zhang	Observer	CN		

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	2 nd	2021 01 - 2023 12
T. Badrick	Member	AU	1 st	2019 03 - 2021 12
R.H. Girardi	Member	AR	2 nd	2021 01 - 2023 12
J. Infusino	Member	IT	2 nd	2020 01 - 2022 12
M. Pérez-Urquiza	Member	MX	1 st	2019 03 - 2021 12
T. Zhang	Member	CN	1 st	2021 05 - 2023 12
M. Quaglia	Consultant	UK		
C. Siebelder	Consultant	NL		
S. Qu	Observer	CN		

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 - <https://www.ifcchba1c.org/>).

Current Projects

- Organisation of IFCC RELA surveys for calibration laboratories and candidate calibration laboratories (<http://www.dgkl-rfb.de:81/index.shtml>)

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

Membership

Name	Position	Country	Term	Time in Office
Y. Özarda	Chair	TR	2 nd	2019 01 - 2021 12
D. Kang	Member	JP	2 nd	2019 01 - 2021 12
K. Kataria	Member	US	1 st	2020 03 - 2022 12
K. Sikaris	Member	AU	2 nd	2020 01 - 2022 12
T. Streichert	Member	DE	2 nd	2020 01 - 2022 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 transferability 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 organizations 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
- Creating a website to provide the reference intervals obtained from the global study for practice of Evidence Based Laboratory Medicine
- Preparation of a publication on comparison direct and indirect approaches for the determination of reference intervals.

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

Membership

Name	Position	Country	Term	Time in Office
H. Vesper	Chair	US	2 nd	2021 01 - 2023 12
A. Hishinuma	Member	JP	2 nd	2021 02 - 2023 12
V. Raverot	Member	FR	1 st	2020 03 - 2022 12
K. Van Uytvanghe	Member	BE	2 nd	2021 01 - 2023 12
S.L. Andersen	Member	DK	1 st	2021 05 - 2023 12
I. Erlund	Consultant	FI		
M. Rottmann	Consultant	DE		
L. Thienpont	Consultant	BE		
H. Völzke	Consultant	DE		

In the previous terms, the committee developed the basis needed to implement standardisation 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 organisations to ensure that free thyroid hormones and TSH are standardized 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	2 nd	2020 01 - 2022 12
X. Bossuyt	Member	BE	2 nd	2020 01 - 2022 12
M.J. Fritzler	Member	CA	2 nd	2020 01 - 2022 12
L. Wienholt	Member	AU	2 nd	2020 01 - 2022 12
M. Rottmann	Member/Roche	DE	2 nd	2020 01 - 2022 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.

8.2.27. Bone Metabolism (C-BM)**Membership**

Name	Position	Country	Term	Time in Office
E. Cavalier	Chair	BE	1 st	2019 01 - 2021 12
H.P. Bhattoa	Member	HU	1 st	2019 02 - 2021 12
A. Heijboer	Member	NL	1 st	2019 02 - 2021 12
C. Ulmer	Member	US	1 st	2019 01 - 2021 12
S. Vasikaran	Member	AU	1 st	2019 02 - 2021 12

V. Delatour	Consultant	FR
K. Phinney	Consultant	US
C. Sempos	Consultant	US
C. Sturgeon	Consultant	UK
H. Vesper	Consultant	US

As of January 2019, the IFCC has created this Committee on “**Bone Metabolism (C-BM)**”, formed by the joining of the already existing Working Groups:

- *Standardisation of Bone Markers Assays (WG-BMA) in collaboration with IOF*
- *Parathyroid Hormone (WG-PTH)*
- *Vitamin D Standardisation Program (WG-Vit D)*

Terms of Reference

- Standardise PTH assays
- Standardise or harmonise bone markers assays
- Standardise vitamin D metabolites assays

Current Projects

1. PTH assays

- Create liaison with International Endocrinological, Rheumatological and Nephrological organisations
- Define the measurand (what we need to measure for all clinical situations)
- Develop a reference measurement procedure (RMP) for PTH(1-84) and moieties of clinical interest
- Evaluate the commutability of PTH International standard PTH 95/646 and the need to create primary reference material
- Replicate the RMP in a second lab and create a network of 3-4 reference labs
- Create an accuracy-based external quality assessment scheme
- Constitute an appropriate and international panel of sera and plasma to establish PTH reference intervals
- Specify performance criteria for RMP and routine methods
- Provide services to manufacturers, notably by providing a reliable source for primary reference materials
- Post-survey of the standardisation effects

2. Bone markers assays

- Continue the liaison with IOF and extend to other relevant international societies

Current CTX and PINP project:

- Complete the multicentre study and harmonise CTX and PINP assays
- Collaborate with EQAS provider(s) to improve the surveys
- Constitute an appropriate and international panel of sera and plasma to establish CTX and PINP reference intervals
- Post-survey of the standardisation/harmonisation effects.

Future projects:

- Select biomarkers to be standardized/harmonized (g.: bone alkaline phosphatase, FGF-23, sclerostin).

3. Vitamin D metabolites

- Re-evaluate current VDSP performance guidelines for 25(OH)D
- Establish VDSP performance guidelines for 24,25(OH)2D, C3-epimer and vitamin D

- binding protein
- Post-survey of the standardisation effects
- Propose services to reassess the true value of 25OHD obtained in former epidemiological or interventional studies that had used non-standardised methods

8.3. SD Working Groups

8.3.35. Standardisation of Hemoglobin A2 (WG-HbA2)

Joint Working Group with ICSH (International Council for Standardization in Haematology)

Membership

Name	Position	Country	Term	Time in Office
A. Mosca	Chair	IT	2 nd	2020 01 - 2022 12
C. Arsene	Member	DE		
P. Kaiser	Member	DE		
R. Paleari	Member	IT		
L. Wu	Member	CN		
T. Zhang	Member	CN		

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	2 nd	2021 01 - 2023 12
R.F. Anton	Member	US		
J. Delanghe	Member	NL		
F. Schellenberg	Member	FR		
C.W. Weykamp	Member	NL		
J.P.M. Wielders	Member	NL		

Terms of Reference

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

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

In cooperation with “National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) - <https://www.niddk.nih.gov/>”

Membership

Name	Position	Country	Term	Time in Office
J. Seegmiller	Chair	US	1 st	2020 01 - 2022 12
A. Beasley Green	Member	US		
J. Delanghe	Member	BE		
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. Kaufmann	Member	US		
T. Killeen	Member	US		
J. Lieski	Member	US		
G. Miller	Member	US		
G. Myers	Member	US		
M. Panteghini	Member	IT		
A. Parsa	Member	US		
K.W. Phinney	Member	US		
S. Sandberg	Member	NO		
H. Schimmel	Member	BE		
D. Secombe	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	1yr extra term	2021 01 – 2021 12
S. Jones	Member	UK		
A. Katrukha	Member	RU		
K. Pettersson	Member	FI		

K. Spencer	Member	UK
C. Sturgeon	Member	UK

Terms of Reference

- To establish a reference material for PAPP-A measurement employed as a marker for prenatal screening

Current Projects

- Evaluation of candidate reference materials in relation to the major assay constructs presently being used in routine prenatal testing

8.3.41. Growth Hormone (WG-hGH)

Membership

Name	Position	Country	Term	Time in Office
M. Vos	Chair	NL	1 st	2021 01 - 2023 12
C. Arsene	Member	DE		
E. Lentjes	Member	NL		
M. Quaglia	Member	UK		
C. Sturgeon	Member	UK		
J.S. Blanchet	Member/Beckman Coulter	FR		
M. Rottmann	Member/Roche	DE		
C. Weykamp	Consultant	NL		
C. Cobbaert	Consultant	NL		

Terms of Reference

- To establish a higher order Reference Measurement System for enabling hGH standardisation of commercial IVDs, encompassing both the development of Reference Materials and a harmonised Reference Measurement Procedure. The RMP should be set-up in at least two calibration labs, and preferentially in a network of calibration labs.

Current projects

- Defining the accuracy base for hGH standardisation in order to establish a complete and sustainable Reference Measurement System.
- Developing an MS-based Reference Measurement Procedure for the measurement of hGH which allows an operational definition of the relevant measurand, according to the matching calibration hierarchy described in ISO 17511:2020. The reference method should meet relevant ISO standards (i.e., ISO 15195) and its performance should be validated. In the end, it should be IFCC endorsed and also listed in the JCTLM database.
- Establish the suitability of recombinant human growth hormone preparations as primary reference material with appropriate properties.
- Establish the performance of commercially available hGH assays compared to the MS-based RMP using single donation samples (from sporters) 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 hGH (a requirement to establish the validity of materials for 4. above).

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

Membership

Name	Position	Country	Term	Time in Office
M. Steffes	Co-Chair	US		
J. Seegmiller	Co-Chair	US		
D. Holmes	Member	CA		
R. Little	Member	US		
M. McPhaul	Member	US		
G. Miller	Member	US		
H. Ritzén	Member	SE		
D. Sacks	Member	US		
G. Wark	Member	UK		
B. Akolkar	Consultant/NIH NIDDK	US		
K. Van Uytvanghe	Consultant	BE		

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	2 nd	2020 01 - 2022 12
D. Armbruster	Member	US		
J. Barth	Member	UK		
A. Katrukha	Member	FI		
J. Noble	Member	UK		
M. Panteghini	Member	IT		
A. Saenger	Member	US		
H. Schimmel	Member	BE		
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)

8.3.49. Working Group CSF-Proteins (WG-CSF)

Membership

Name	Position	Country	Term	Time in Office
J. Gobom	Chair	SE	2 nd	2021 01 - 2023 12
U. Andreasson	Member	SE		
K. Blennow	Member	SE		
R. Bateman	Member	US		
V. Delatour	Member	FR		
R. Jenkins	Member	US		
M. Korecka	Member	US		
S. Lehmann	Member	FR		
P. Lewczuk	Member	DE		
M. Lowenthal	Member	US		
E. Portelius	Member	SE		
L.M. Shaw	Member	US		
E. Stoops	Member	BE		
H. Vanderstichele	Member	BE		
E. Vanmechelen	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

- 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

8.3.51. Commutability in Metrological Traceability (WG-CMT)

Membership

Name	Position	Country	Term	Time in Office
G. Miller	Chair	US	1 st	2020 03 - 2022 12
H. Althaus	Member	DE		

J. Budd	Member	US
C. Burns	Member	UK
J. Camara	Member	US
F. Ceriotti	Member	IT
V. Delatour	Member	FR
N. Greenberg	Member	US
J. Johansen	Member	DK
P. Kaiser	Member	DE
T. Keller	Member	DE
A. Lyle	Member	US
F. MacKenzie	Member	UK
M. Panteghini	Member	IT
R. Rej	Member	US
S. Sandberg	Member	NO
H. Schimmel	Member	BE
M. Spannagl	Member	DE
E. van der Hagen	Member	NL
H. Vesper	Member	US

Terms of Reference

- Advise IFCC Committees and Working Groups on how to assess the commutability of materials on which they are working.
- Establish procedures to use commutable reference materials, and to correct for non-commutability bias, in a metrological traceability hierarchy.
- Establish how to define the criterion for acceptable commutability that is required for a given reference material, taking into account its intended use in a metrological traceability hierarchy or for surveillance of harmonisation/standardization status of results from different measurement procedures.
- Provide recommendations on verifying commutability for replacement batches of a reference material.

Current Projects

- How to specify acceptance criteria for commutability assessment.
- How to verify commutability for a new batch of a reference material.
- How to use a CRM in the calibration hierarchy for a measurement procedure for which the sample matrix is not intended.

8.3.53. Immunosuppressive Drugs (WG-ID)

Membership

Name	Position	Country	Term	Time in Office
C. Seger	Chair	CH	2 nd	2021 01 - 2023 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		

A. Kessler	Member	DE
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
C. Snozek	Member	US
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 harmonisation 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	2 nd	2020 01 - 2022 12
L.R. Ruhaak	Secretary	NL		
I. Begcevic	Member	US		
U. Ceglarek	Member	DE		
V. Delatour	Member	FR		
J. Dittrich	Member	DE		
A. Hoofnagle	Member	US		

Z. Kuklennyik	Member / CDC	US
A. Lyle	Member / CDC	US
H.W. Vesper	Member / CDC	US
H. Althaus	IVD Representative/Siemens	DE
U. Prinzing	IVD Representative/Roche	DE
E. Angles-Cano	Consultant	FR
G.M. Kostner	Consultant	AT
F. Kronenberg	Consultant	AT
L. Deprez	Consultant / JRC	BE
I. Dikaïos	Consultant / JRC	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	2 nd	2020 01 - 2022 12
F. Canalias	Member	ES		
F. Ceriotti	Member	IT		
B. Chen	Member	CN		
J. Infusino	Member	IT		
S. Pal	Member	IN		
S. Ueda	Member	JP		
M. Veuger	Member	NL		

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	2nd	2020 01 - 2022 12
J.M. Auge	Member	ES		
L. Deprez	Member	BE		
N. Djedovic	Member	UK		
M. Frasa	Member	NL		
S. Jones	Member	UK		
P. Kocna	Member	CZ		
C. Piggott	Member	UK		
P. St. Louis	Member	CA		
J. Strachan	Member	UK		
E. Symonds	Member	AU		
S. Takehara	Member	JP		
E. van der Hagen	Member	NL		
A. Cugini	Corp. Member	IT		
Y. Doi	Corp. Member	JP		
M. Fujimura	Corp. Member	JP		
T. Fukuda	Corp. Member	JP		
H. Hayashi	Corp. Member	JP		
A. Horikawa	Corp. Member	JP		
Y. Masuda	Corp. Member	JP		
F. Rota	Corp. Member	IT		
S. Wu	Corp. Member	JP		
M. Zacherl	Corp. Member	DE		

Terms of Reference

- To harmonise and/or standardise analysis of haemoglobin in faecal samples by immunochemistry (FIT)
- To establish EQA and 3rd party IQC programmes
- To determine the feasibility of developing reference materials and/or commutable calibrators
- The IFCC FIT-WG can provide recommendations and guidance on preanalytical and analytical aspects of FIT

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	2 nd	2021 01 - 2023 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

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

8.3.58. Working Group Standardisation of Procalcitonin assays (WG-PCT)

Membership

Name	Position	Country	Term	Time in Office
V. Delatour	Chair	FR	2 nd	2021 01 - 2023 12
A. Boeuf	Member	FR		
H. Briand	Member	FR		
N. Corocher	Member	IT		
A.M. Dupuy	Member	FR		
P. Hausfater	Member	FR		
P. Kaiser	Member	DE		
Q. Liu	Member	SG		
B. Machetanz	Member	DE		
L. Pallavicini	Member	IT		
S. Pastori	Member	IT		
J. Pfannkuche	Member	DE		
K. Schneider	Member	DE		
P. Schütz	Member	CH		
C. Tsatsanis	Member	GR		
C. Yuan	Member	US		
P. Bryan	Member/OCD	US		
M. Grimmmler	Member/Diasys	DE		
P. Jauria	Member/Radiometer	FI		
T. Masetto	Member/Diasys	DE		
J. Odarjuk	Member/Thermo Fisher	DE		
N. Parker	Member/Siemens	US		
M. Patru	Member/OCD	US		
K. Paulsen	Member/Beckman Coulter	DE		
M. Rottmann	Member/Roche	DE		
S. Ruetten	Member/Abbott	US		

A. Rybin	Member/Siemens	US
L. Seaver	Member/Abbott	US
M. Solari	Member/Beckman Coulter	US
B. Thomas	Member/Thermo Fisher	DE

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 standardisation of PCT assays
- Evaluate the feasibility for standardisation of PCT assays
- Perform standardisation 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 characterisation of candidate primary calibrators
- Development of a candidate reference method for absolute quantification of PCT by IDMS

8.3.60. Working Group on Continuous Glucose Monitoring (WG-CGM)

Membership

Name	Position	Country	Term	Time in Office
G. Freckmann	Chair	DE	1 st	2019 07 - 2021 12
R. Slingerland	Co-Chair	NL		
P. Diem	Member	CH		
E. Eriksson Boija	Member	SE		
J. Jendle	Member	SE		
Y. Ju	Member	CN		
D. Klonoff	Member	US		
J. Nichols	Member	US		
M. Tangirala	Member	IN		
A. Thomas	Member	DE		
N. Tran	Member	US		
R. Hinzmann	Member/Roche	DE		

Terms of Reference

- Establish traceability of glucose values obtained by continuous glucose monitoring (CGM) to materials and methods of higher metrological order,
- Establish metrics for the evaluation of the analytical performance of CGM,
- Work with ISO on a new CGM guideline (analogous to ISO 15197) to establish standardised procedures and acceptance criteria for CGM.

Current projects

- Propose means suitable for establishing the traceability of glucose values obtained by CGM to materials and methods of higher metrological order according to ISO 17511, including definition of adequate compartment(s) for reference samples (capillary, venous),
- Find procedures suitable for assessment of analytical performance of CGM systems,
- Define metrics and corresponding minimum acceptance criteria for the analytical performance of CGM systems.

8.3.61 Development of a Reference Measurement System for sustainable PT/ INR Standardization (WG-PT/INR)

At the time of publication of this handbook, the definition of this SD Working Group is on-going.

Please refer to the IFCC website under the SD to view the current Membership, Terms of Reference, and Current projects.

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

SD EXECUTIVE COMMITTEE

Chair

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Toxicologie
Pôle de Biologie Médicale et Pathologie
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Vice-Chair

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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)
- 9.2.7. Evidence Based Laboratory Medicine (C-EBLM)
- 9.2.9. Clinical Laboratory Management (C-CLM)
- 9.2.11. Education in the Use of Biomarkers in Diabetes (C-EUBD)
- 9.2.12. Clinical Applications of Cardiac Biomarkers (C-CB)
- 9.2.13. Kidney Disease (C-KD)
- 9.2.14. Point of Care Testing (C-POCT)
- 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)
- 9.3.11 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)

List of Addresses

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

Chair:

Prof. Nader RIFAI (US)

Vice-Chair:

Dr. Vanessa STEENKAMP (ZA)

Corporate Representative and Secretary:

Dr. André ZIEGLER (CH)

Member and VLP Chair:

Prof. Sedef YENICE

Member:

Prof. Tomas ZIMA (CZ)

CHAIRS OF EDUCATION AND MANAGEMENT DIVISION COMMITTEES AND WORKING GROUPS

9.1. Executive Committee

N. Rifai (US)

9.2. Committees

9.2.4. Clinical Molecular Biology Curriculum (C-CMBC)	V. Haselmann (DE)
9.2.7. Evidence Based Laboratory Medicine (C-EBLM)	A. Zemlin (ZA)
9.2.9. Clinical Laboratory Management (C-CLM)	P. Sharma (IN)
9.2.11. Education in the Use of Biomarkers in Diabetes (C-EUDB)	E. English (UK)
9.2.12. Clinical Applications of Cardiac Biomarkers (C-CB)	F. Apple (US)
9.2.13. Kidney Disease (C-KD)	F. Alcantara (BR)
9.2.14. Point of Care Testing (C-POCT)	A. Khan (CA)
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)	M. Plebani (IT)
9.3.11. Personal Support	G. Beastall (UK)

9.4. Special Projects

9.4.1. Visiting Lecturer Programme (VLP)	S. Yenice (TR)
9.4.2. Flow Cytometry (WG-FC)	C. Lambert (FR)

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
N. Rifai	Chair	US	1 st	2021 01 - 2023 12
V. Steenkamp	Vice Chair	ZA	1 st	2021 01 - 2023 12
A. Ziegler	Corp. Rep. and Secretary	CH	2 nd	2021 01 - 2023 12
S. Yenice	Member & VLP Chair	TR	1 st	2021 01 - 2023 12
T. Zima	Member	CZ	1 st	2021 01 - 2023 12

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 programmes 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 the 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
V. Haselmann	Chair	DE	1 st	2020 01 - 2022 12
E. Capoluongo	Member	IT	2 nd	2020 01 - 2022 12
O. Diez	Member	ES	1 st	2020 01 - 2022 12
G. Russomando	Member	PY	1 st	2021 04 – 2023 12
A. Ferreira Gonzalez	Consultant	US		
E. Lianidou	Consultant	GR		

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

9.2.7. Evidence Based Laboratory Medicine (C-EBLM)

Membership

Name	Position	Country	Term	Time in Office
A. Zemlin	Chair	ZA	2 nd	2021 1 - 2023 12
A. Don Wauchope	Member	CA	2 nd	2021 1 - 2023 12
R. Khalil	Member	EG	1 st	2020 3 - 2022 12
S. Barghava	Member	IN	1 st	2019 3 - 2021 12
N. Giménez Gomez	Member	ES	2 nd	2020 1 - 2022 12
C. Florkowski	Consultant	NZ		
K. Rodriguez-Capote	Consultant	CA		

Terms of Reference / Mission

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

Aims and Objectives

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

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
P. Sharma	Chair	IN	1 st	2020 1 - 2022 12
E. Randell	Member	CA	2 nd	2019 1 - 2021 12
A.A. Khine Wamono	Member	ID	2 nd	2019 1 - 2021 12
M.S. Güngören	Member	TR	1 st	2020 1 - 2022 12
R. Elina	Member	MY	1 st	2021 3 - 2023 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 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.

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

Membership

Name	Position	Country	Term	Time in Office
E. English	Chair	UK	1 st	2021 04 – 2023 12
A. Sato	Member	JP	1 st	2019 03 – 2021 12
D. Sacks	Member	US	2 nd	2019 01 – 2021 12
C. Weycamp	Member	NL	2 nd	2019 01 – 2021 12
<i>To be nominated</i>	Member			
E. Lenters-Westra	Consultant			

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 based on 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 Clinical Application of Cardiac Biomarkers (C-CB)

Membership

Name	Position	Country	Term	Time in Office
F. Apple	Chair	US	2 nd	2020 01 - 2022 12
P. Kavsak	Member	CA	2 nd	2020 01 - 2022 12
O. Hammarsten	Member	SE	1 st	2020 01 - 2022 12
A. Saenger	Member	US	2 nd	2020 01 - 2022 12
R. Body	Member	UK	2 nd	2020 01 - 2022 12
SPC Lam	Member	UK	2 nd	2020 01 - 2022 12
K. Moberg Aakre	Member	NO	1 st	2021 01 - 2023 12
P. Collinson	Consultant	UK		
A. Jaffe	Consultant	US		
T. Omland	Consultant	NO		
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 and heart failure, 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 from manufacturer claims and from peer-reviewed literature
- Continuation of distribution of educational posters and mousepads, 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 be 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

- Work closely with industry and global professional organizations to provide educational workshops and symposiums, utilizing online webinars during the COVID-19 pandemic

9.2.13 Kidney Disease (C-KD)

Membership

Name	Position	Country	Term	Time in Office
F. Alcantara	Chair	BR	2 nd	2019 01 - 2021 12
P. Datta	Member	US	2 nd	2020 01 - 2022 12
J. Delanghe	Member	BE	1 st	2020 03 - 2022 12
M. Mussap	Member	IT	2 nd	2020 01 - 2022 12
V. Radišić Biljak	Member	HR	2 nd	2020 01 - 2022 12
JH. 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
Al. Khan	Chair	CA	1 st	2019 01 - 2021 12
P. Oliver Saez	Member	ES	1 st	2019 01 - 2021 12
M. Vaubourdolle	Member	FR	2 nd	2021 01 - 2023 12
J. Shaw	Member	CA	2 nd	2021 01 - 2023 12
P. Jarvis	Corp.Rep./Abbott	UK	1 st	2019 01 – 2021 12
P. Pamidi	Corp.Rep./Instrumentation Laboratory		1 st	2021 03 – 2023 12
R. Tirimacco	Consultant	AU		
S. Sandberg	Consultant	NO		
G. Kost	Consultant	US		
E. Jacobs	Consultant	US		

Terms of Reference

1. To promote quality in the use, performance, interpretation and reporting of POCT across the full spectrum of clinical chemistry and laboratory medicine

2. To create a forum for high level discussion on a wide range of POCT related topics
3. 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

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

Membership

Name	Position	Country	Term	Time in Office
A. St John	Chair	AU	2 nd	2021 1 – 2023 12
R. Christenson	Member	US	2 nd	2021 1 – 2023 12
M. O’Kane	Member	UK	2 nd	2021 1 – 2023 12
P. Juelicher	Member	DE	2 nd	2021 1 – 2023 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
M. Plebani	Chair	IT	1st	2020 1 – 2022 12
L. Sciacovelli	Member	IT		
V. De Guire	Member	CA		
K. Furtado Veira	Member	BR		
A. Galoro	Member	BR		
W. Shcolnik	Member	BR		
I. Garcia del Pino Castro	Member	ES		
A. Ivanov	Member	EE		
G. Lippi	Member	IT		
W. Qingtao	Member	CN		
Z. Rui	Member	CN		
Z. Sumarac	Member	SRB		
J. West	Member	UK		

Mission

The WG mission is to stimulate studies on the topic of 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.

9.3.11 Personal Support (WG-PS)

Membership

Name	Position	Country	Term	Time in Office
G. Beastall	Chair	UK	2 nd	2021 01 - 2023 12

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
S. Yenice	Chair	TR	1 st	2021 1 – 2023 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
C. Lambert	Chair	FR	2 nd	2021 01 - 2023 12

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.

List of Addresses

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Chair

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Corporate Representative

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Chapter 10

Communications and Publications Division

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 - 10.2.2. Internet and Distance Learning (C-IeL)
 - 10.3. Communications and Publications Division Working Groups**
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 - 10.3.2. IFCC eNews (WG-IFCC eNews)
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 - 10.19. Communications and Publications Division Meetings**
- List of Addresses**

**COMMUNICATIONS AND PUBLICATIONS DIVISION
EXECUTIVE COMMITTEE (CPD-EC)**

Chair:

Prof. Tahir S. PILLAY (ZA)

Vice Chair:

Prof. János KAPPELMAYER (HU)

Secretary:

Dr. Eduardo FREGGIARO (AR)

Members:

Prof. Rajiv ERASMUS (ZA)

Dr. Katherina PSARRA (GR)

Corporate Representative:

Mrs Tricia RAVALICO (US)

CHAIRS OF COMMUNICATIONS AND PUBLICATIONS DIVISION COMMITTEES AND WORKING GROUPS

10.1. Executive

T. S. Pillay (ZA)

10.2. Committees

10.2.1. Public Relations (C-PR)

R. Erasmus (ZA)

10.2.2 Internet and eLearning (C-IeL)

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)

K. Psarra (GR)

10.3.3. Ibero-American Nomenclature and Translation (WG-IANT)

R. Girardi (AR)

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.

All IFCC publications are copyrighted by IFCC.

10.1. CPD Executive Committee (CPD-EC)

Membership

Name	Position	Country	Term Time in Office	
T.S. Pillay	Chair	CA	1 st	2019 01 - 2021 12
J. Kappelmayer	Vice-Chair	HU	2 nd	2021 01 - 2023 12

E. Freggiaro	Secretary	AR	2 nd	01 2020 - 2022 12
K. Psarra	Member	GR	1 st	2019 01 - 2021 12
R. Erasmus	Member	ZA	1 st	2019 01 - 2021 12
T. Ravalico	Corporate Rep.	US	2 nd	2021 01 - 2023 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	
R. Erasmus	Chair	ZA	1 st	2019 01 - 2021 12
E.O. Agbedana	Member	NG	2 nd	2020 01 - 2022 12
MdC Pasquel Carrera	Member	EC	1 st	2021 01 - 2023 12
K. Patel	Member	US	1 st	2020 11 - 2023 12
P. Vervaart	Member	AU	1 st	2019 01 - 2021 12
M. Spalvieri	Consultant	AR		
To be nominated	Advisor	AFCB		
A.B. Okesina	Advisor	AFCC		
E. Hoyaranda	Advisor	APFCB		
To be nominated	Advisor	COLABIOCLI		
D. Rajdl	Advisor	EFLM		
D. Kinniburgh	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.

- To promote IFCC activities to National Representatives on a regular basis through the use of social media tools such that these communications can be effectively communicated to their respective members.
- To monitor how effectively are IFCC communications being shared by the National Representatives with their respective members.

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 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 e Learning (C-leL)

Membership

Name	Position	Country	Term	Time in Office
E. Freggiaro	Chair	AR	2 nd	2021 01 - 2023 12
L. Brennan-Bourdon	Member	MX	1 st	2019 06 - 2021 12
R. Shrestha	Social Media Coordinator	NP	1 st	2020 01 - 2022 12
A. Sibtain	Member	PK	1 st	2020 01 - 2022 12
DI Topcu	Web Editor	TR	1 st	2020 01 - 2022 12

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 and included in Scopus.

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	2 nd	2021 01 - 2023 12
K. Adeli	Member	CA		
H.P. Bhattoa	Member	HU		
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. Kovács	Member	HU
J. Marc	Member	SI
G. L. Myers	Member	US
T. Ozben	Member	TR
M. Pasic	Member	CA
M.C Pasquel	Member	EC
O. Racz	Member	SK
R. Sierra Amor	Member	MX
S. Stankovic	Member	SR
D. Syed	Member	US
G. Sypniewska	Member	PL
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
K Psarra	Chair	GR	1 st	2019 01 - 2021 12
Y. Binod	Member	NP		
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	ES		
D. Gruson	Member	BE		
A. Hedhili	Member	TU		
T.H. Hoang	Member	VN		
B. Meska Pika	Member	SI		
S. Mohapatra	Member	IN		
A. Piana	Member	UY		
R. Sierra Amor	Member	MX		
G. Sypniewska	Member	PL		
T. Ravalico	Corp Member	US		

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
Raúl Girardi	Chair	AR	1 st	2020 01 - 2022 12
Abraham Enrique	Member	CU		
Arias Alejandra	Member	AR		
Avivar Oyonart Cristóbal	Member	ES		
Blanes Monserrat	Member	PY		
Cano-Huizar Alejandra	Member	MX		
Chueca Patrocinio	Member	ES		
García Roberto	Member	AR		
García Zoila Rita	Member	DO		
Garzón Alba Cecilia	Member	CO		
Guerrero Beatriz Mina	Member	BO		
Guillén Elizabeth	Member	PY		
Juárez Yaremi	Member	PA		
Justiniano Cortés Alvaro	Member	BO		
Piana Ana Maria	Member	UY		
Reguengo Henrique	Member	PT		
Rider Antonio	Member	ES		
Sáez-Alquezar Amadeo	Member	BR		
Vite Casanova María Jezabel	Member	MX		

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 Raúl Girardi).
- 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



Step 5:	Mail Ballot 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 website 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 preestablished 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

11.1. Emerging Technologies Division Executive Committee

- 11.1.1. Mission Statement
- 11.1.2. Strategy
- 11.1.3. Responsibilities
- 11.1.4. Terms of Reference
- 11.1.5. Projects

11.2. Emerging Technologies Division 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. Emerging Technologies Division Working Groups

- 11.3.1. Guidance for the implementation of custom-made genomic panels (WG-CGP)
- 11.3.2. Volatolomics (WG-Vol)
- 11.3.3. Artificial Intelligence and Genomic Diagnostics (WG-AIGD)
- 11.3.4. Single Cell and Spatial Transcriptomics (WG-SCST)

11.4. Corporate Member Activities

11.5 List of Addresses

**EMERGING TECHNOLOGIES DIVISION
EXECUTIVE COMMITTEE (ETD-EC)**

Chair

Prof. Sergio BERNARDINI (IT)

Vice Chair

Prof. Paolo FORTINA (US)

Secretary

A/Prof. Ronda GREAVES (AU)

Member

Prof. Damien GRUSON (BE)

Corporate Members

Dr. Markus ROESSLER (DE)

Dr. Peng YIN (US)

ETD Consultants

Prof. Maurizio FERRARI (IT)

Dr. Larry KRICKA (US)

Prof. Jason PARK (US)

Dr. Helen MARTIN (AU)

CHAIRS OF EMERGING TECHNOLOGIES DIVISION COMMITTEES AND WORKING GROUPS

11.1. Executive Committee

S. Bernardini (IT)

11.2. Committees

- | | |
|---|---|
| 11.2.1 Committee on Emerging Technologies in Pediatric Laboratory Medicine (C-ETPLM) | T. Lang (UK) |
| 11.2.2 Committee on Mobile Health and Bioengineering in Laboratory Medicine (C-MHBLM) | B. Gouget (FR) |
| 11.2.3 Committee on Omics Translation (C-OT) | S. Bernardini (IT)
<i>ad interim</i> |

11.3 Working Groups

- | | |
|---|---------------------|
| 11.3.1 Volatolomics (WG-Vol) | L. Kricka (US) |
| 11.3.2 Guidance for the Implementation of Custom-made Genomic Panels (WG-GCP) | J. Morrissette (US) |
| 11.3.3 Artificial Intelligence and Genomic Diagnostics (WG-AIGD) | L. Kricka (US) |
| 11.3.4 Single Cell and Spatial Transcriptomics (WG-SCST) | A. South (US) |

11. Emerging Technologies Division (ETD)

The IFCC Emerging Technologies Division (ETD) formally commenced 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)) were merged into the ETD at this time.

11.1. ETD Executive Committee (ETD-EC)

Membership

Name	Position	Country	Term	Time in Office
S. Bernardini	Chair	IT	2 nd	2021 01 - 2023 12
P. Fortina	Vice-Chair	US	2 nd	2021 01 - 2023 12
R. Greaves	Secretary	AU	2 nd	2021 01 - 2023 12
D. Gruson	Member	BE	2 nd	2021 01 - 2023 12
M. Roessler	Corporate M.	DE	2 nd	2021 01 - 2023 12
P. Yin	Corporate M.	US	2 nd	2021 01 - 2023 12
M. Ferrari	Consultant	IT		
L. Kricka	Consultant	US		
J. Park	Consultant	US		
H. Martin	Consultant	AU		

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)

Membership

Name	Position	Country	Term	Time in Office
T. Lang	Chair	UK	2 nd	2021 01 - 2023 12
T.P. Loh	Member	SG	2 nd	2021 01 - 2023 12
C.M Mak	Member	CN	1 st	2019 01 - 2021 12
I. Papassotiriou	Member	GR	2 nd	2021 01 - 2023 12
J. Zierk	Member	DE	1 st	2019 01 - 2021 12
Y.B. de Rijke	Member	NL	1 st	2021 05 - 2023 12
K. Kohse	Consultant	DE		
S. Geaghan	Consultant	US		
R. Greaves	EC Liaison	AU		

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.

The purpose of this Committee is to develop procedures and processes to improve the diagnosis and management of patients from birth to adolescence. The use of emerging technologies in this area is of particular relevance as it has the potential to deliver real change and improve access to healthcare in the developing and emerging countries.

Terms of reference

- To identify, prioritise and coordinate projects to support the emerging science in pediatric laboratory medicine across the total testing process.
- To review the current concepts in Pediatric Laboratory Medicine and advance laboratory practice through the development and dissemination of position papers and guidelines.
- To develop existing links and establish new links with clinical and scientific societies working in other specialist organizations including neonatology, pediatrics, inherited metabolic diseases and other rare diseases.
- To lead education activities, including the tri-annual congress of Pediatric Laboratory Medicine.
- To coordinate a worldwide network of scientists working in laboratories specialized in Emerging Pediatric Laboratory Medicine (C-EPLM).
- To work to support emerging economies in Pediatric Laboratory Medicine.

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 activities 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 C-ETPLM 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. The identification and promotion of emerging

technologies will help support the laboratory provide the most appropriate care for its pediatric patients.

Activities of the C-ETPLM will include:

- 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
- Delivery of educational material on topics relevant to the area of emerging technology in pediatric laboratory medicine through a variety of modalities
- In partnership with other IFCC functional groups and specialist interest bodies collate best practice and experiences in common areas or in response to local/worldwide health issues.
- Regularly publish reports on the progress of the Committee’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)

Membership

Name	Position	Country	Term	Time in Office
B. Gouget	Chair	FR	2 nd	2021 01 - 2023 12
K. Kotani	Member	JP	1 st	2019 01 - 2021 12
J. Nichols	Member	US	1 st	2019 01 - 2021 12
F. Desiere	Member-Roche	DE	1 st	2019 02 - 2021 12
M. Heydlauf	Member-Siemens	US	1 st	2019 02 - 2021 12
D. Gruson	EC Liaison	BE		

Mobile health technologies are part of the current transformation of healthcare and refer to digital applications, sensors, and wearables. Mobile health technologies are more and more used for patients’ continuous care and empowerment.

Mobile health technologies also appear as an opportunity to create more junctions with healthcare professionals and dynamic care pathways for the management of patients with chronic conditions.

The engineering, evaluation and validation of sensors and wearables is mandatory to ensure patients safety and have to involved different caregivers (laboratorians, physicians, nurses, pharmacists...). In another hand, digital applications and connected devices leverage additional challenges such as secured data transfer to electronic medical records and interoperability as well as meeting the requirements of user (user experience).

Specific focus should also be given to the connectivity with new laboratory informatics interfaces and new generations of hospital informatics systems as well as the powerful applications of artificial intelligence to laboratory medicine.

Terms of reference of the C-MHBLM

- To review the current concepts of e-Health including broadband connectivity, software, digital networking, big data, mobile connectivity, smart infrastructure and even artificial intelligence to support the delivery of health and medical care for individuals and communities.
- To promote the potential of e-health and m-health in laboratory medicine to improve service delivery for patients including more cost-effective models of care, remote monitoring, improved access even over large distances and rapid data analyses and generation of knowledge.

- To establish collaborations and partnerships with the other organisations concerned with e- Health /m-health and clinical societies and international organisations/bodies.
- To promote an environment where digitally enabled and integrated systems help specialists in laboratory medicine to deliver patient-centred health experiences and quality health outcomes.

11.2.3. Committee for Omics Translation (C-OT)

Membership

Name	Position	Country	Term	Time in Office
S. Bernardini	Chair <i>ad interim</i>	IT	1 st	2021 04 - 2021 12
W. Ping	Member	US	1 st	2019 01 - 2021 12
M. de Tayrac	Member	FR	1 st	2019 01 - 2021 12
E. Fux	Member-Roche	DE	1 st	2021 05 - 2023 12
P. Fortina	EB Liaison	US		

“Omics” refers to the totality of a field of study. Many types of omics have been described, including: glycomics, lipidomics, metabolomics, pharmacogenomics, proteomics, transcriptomics, and volatolomics. Omics information has the potential to lead to improvement in many facets of human life and society, including the understanding, diagnosis, treatment, and prevention of disease; advances in agriculture, environmental science, and remediation; and our understanding of evolution and ecological systems.

Terms of Reference:

The evaluation of new Omic technologies and analyte targets with potential for implementation in a clinical laboratory setting

- To provide guidance for complex multi-analyte omics testing including data integration and interpretation.
- To review omics technology guidelines and position papers in conjunction with other professional organisations.
- To provide guidance on pre-analytical factors for omics applications including consideration of sample matrices
- To provide an in-depth assessment of emerging volatolomics technologies and their impact on the diagnosis, management and understanding of human diseases.

Today, there is an increasing need for researchers and clinicians to understand the scope and results of omics research and incorporate the information into diagnostics, therapeutics and studies of disease aetiology.

Objectives

The Omics Committee seeks to assess the diagnostic significance and impact of omics technology. Initially, the committee will focus on Genomics (including the related epigenomics and transcriptomics).

Genomics

One of the best-known examples of omics is genomics. Genomics is defined as: “a branch of biotechnology concerned with applying the techniques of genetics and molecular biology to the genetic mapping and DNA sequencing of sets of genes or the complete gene set of selected organisms, with organizing the results in databases, and with applications of the data (as in medicine or biology)”. Indeed, the field of genetics is not only one of the most rapidly advancing areas of the life sciences, but also one that has a major impact on all of our lives because of its central role in medicine and biotechnology. Furthermore, advances in genomics, and more broadly in biomedical

research, have been greatly facilitated by significant and sustained throughput increases, cost decreases, and improvements in ease of use of genomics technology. The ability to assay genomes comprehensively has been made possible by the enormous reduction of costs and development of many informative assays in the past few decades. Technology advances, particularly new sequencing systems, have enabled many research projects that are producing stunning insights into biology and disease. Extending beyond sequence per se, assays have been developed to determine nucleotide modifications, chromatin state, nuclear organization, and dynamics of those features achieving the low costs and high quality needed to use comprehensive genomic information in many research applications or in individual health care. The Committee proposes to provide an in-depth assessment of emerging genomics tools and their impact on the diagnosis, management and understanding of human diseases.

The initial focus will be on:

- Single cell/small sample genomics,
- High throughput biochemical and other tools to modulate gene expression,
- Foundational technologies (e.g., efficient sample preparation),
- Genome-wide functional analyses,
- Transcriptomics,
- Epigenomics,

Emerging technologies that may add substantial advances beyond existing approaches, and, if successful, significantly propel forward the field of genomics will be evaluated.

Examples of candidate technologies include:

- DNA, RNA, epigenome, transcriptome, and chromatin analysis from the same sample
- High-throughput genome modifications for replacement, activation, and inhibition, with genomic readout
- Technologies for scaling genomic assays to operate on 10,000 samples cost effectively for e.g., single cell/small samples and for large numbers of samples (e.g., sampling of heterogeneity, population studies);
- Hand-held DNA analysers (e.g., based on Smartphones, nanopore technology).

11.3. ETD Working Groups

11.03.01. Guidance for the implementation of custom-made genomic panels (WG-CGP)

Membership

Name	Position	Country	Term	Time in Office
J. Morrisette	Chair	US	1 st	2019 06 - 2021 12
OO. Soriyan	Member	NG		
C. Paolillo	Member	US		
M. Ewalt	Member	US		
C. Santonocito	Member	IT		
ME. Marmarelis	Member	US		
M. Carroll	Member	US		
M. Murthy	Member	BW		
YM Martei	Member	BW		
C. Davies	Member	US		
J. Segal	Member	US		
RT. Sussman	Member	US		
C Rushton	Member	US		

The IFCC Emerging Technology Division (ETD) provides current awareness for emerging technologies likely to have important clinical diagnostic applications in the near future. One of those technologies is Next Generation Sequencing (NGS), which allows the detection of variants in large numbers of genes in a massively parallel fashion. The detection of these variants in tumour tissue can be diagnostic, prognostic, and/or predictive for therapeutic response. In many large academic institutions, NGS testing is performed on most tumour samples and when appropriate, the results are linked to therapy as standard of care. However, genomic testing of tumour samples is not well established in the community hospital setting and is largely not performed in emerging nations.

Terms of Reference

Provide a regularly updated perspective on the clinical diagnostic applications of NGS over the next 3 years through both the creation of a webpage and the publication of manuscripts to:

- Assist clinical laboratories in developing in-house NGS programs,
- Model ways to provide mutation detection,
- Improve detection linked to therapies for those in emerging nations.

Current projects

- Create and add content to a current awareness webpage on genomics:
 1. Genomics educational section
 - a. Seminal papers: Genomics review articles; Circulating Tumor DNA; Tumor heterogeneity; Fusion Detection; Minimal Residual Disease; Tumor Mutational Burden; Immunotherapy; Clonal Hematopoiesis of Indeterminate Potential
 - b. Webinars, Podcasts and Educational resources
 - c. Guidelines
 2. Industry partners and technologies of interest
 - a. FDA approved/cleared molecular diagnostic test
 - b. Industry partners
 3. Clinical Validation of a NGS assay
 - a. Manuscripts delineating best practices
 - b. Tools to determine assay performance
 4. Best practice: links to common equipment used in NGS
 - a. Wet Lab
 - b. Bioinformatics
 - c. Reporting
 - d. Clinical treatment guidelines
- Manuscript of best practices for validation of clinical NGS and reporting, based on the seminal papers in the field, with links to the IFCC website.
- Manuscript based on IFCC survey results on current needs and best practices for moving genomics into emerging nation settings
- Identification of an appropriate hospital or clinic in an emerging nation(s) to implement genomic testing associated with targeted therapy in the oncology setting.

11.03.02. Volatolomics (WG-Vol)

Membership

Name	Position	Country	Term	Time in Office
L. Kricka	Chair	US	1 st	2019 06 - 2021 12
P. Fortina	Member	US		
J. Wienczek	Member	US		

The IFCC Emerging Technology Division (ETD) provides current awareness for emerging technologies likely to have important clinical diagnostic applications in the near future. One of those technologies is volatolomics (breathomics) i.e., breath analysis.

Terms of Reference

- To develop a survey of the diagnostic applications of volatolomics (breath analysis).
- To develop periodic updates of the volatolomics survey over the next 3 years.

Current projects

- Applications of breath analysis in detecting COVID-19
- Survey of the diagnostic applications of volatolomics (breath analysis) including recent literature, companies, clinical diagnostic products, and clinical trials.
- Solicit industry and academia input to the planned updates of the volatolomics survey.

11.03.03. Artificial Intelligence and Genomic Diagnostics (WG-AIGD)

Membership

Name	Position	Country	Term	Time in Office
LJ Kricka	Chair	US	1 st	2021 01 - 2023 12
LM Baudhuin	Member	US		
A. Ertel	Member	US		
P. Fortina	Member	US		
T. Hope	Member	US		
C. McCudden	Member	CA		
JY Park	Member	US		
S. Polevikov	Member	US		
D. Satchkov	Member	US		

Terms of Reference

- To evaluate and monitor emerging trends and directions of research and development in the field defined by the intersection of artificial intelligence, genomics, and clinical diagnostics.
- To develop an in-depth assessment of the application of AI (deep learning, machine learning) in genomic (molecular) diagnosis.
- To develop periodic updates of the applications of AI in clinical genomic testing.
- To assess the accessibility and the barriers to routine implementation of AI in clinical genomic testing.
- To develop a resource that will inform the IFCC community on developments and trends in the applications of artificial intelligence in clinical genomic

Current projects

- Survey of the clinical diagnostic applications of AI in genomics, including recent literature, companies, clinical diagnostic products, and clinical trials.
- Solicit industry and academia input into the AI in clinical genomics survey.
- Assess the role of AI in genomic tests for detecting COVID-19.
- Explore the utility of AI-based search engines in searching the AI and genomics literature for emerging diagnostic applications
- Formulate consensus definitions of AI and other terms relevant to the application of AI in clinical laboratories

11.03.04. Single Cell and Spatial Transcriptomics (WG-SCST)

Membership

Name	Position	Country	Term	Time in Office
AP South	Chair	US	1 st	2021 01 - 2023 12
RJ Cho	Member	US		
G. Kumar	Member	US		

Terms of Reference

Provide a regularly updated perspective on the clinical diagnostic applications of single-cell and spatial transcriptomic technologies as they evolve and become more accessible over the next 3 years through both the creation of a webpage and the publication of manuscripts to:

- Assist clinical laboratories in developing in-house single-cell and spatial transcriptomics
- Provide up to date information on potential therapy matches through identification of effector cell types in different disease states
- Provide up to date information on technologies and approaches as they become commercially available

Current projects

- Begin work on a manuscript delineating the prerequisites required for the implementation of single cell in the clinical setting
- Review the current genomic testing platforms available in the clinic
- Investigation of new platforms for rapid single cell and spatial genomics
- Explore technologies for single cell somatic mutational profiling in tumour, inflammatory, and normal tissues

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

ETD EXECUTIVE COMMITTEE

Chair

Prof. Sergio BERNARDINI

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Secretary

A/Prof. Ronda GREAVES

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Vice-Chair

Prof. Paolo FORTINA

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Members

Prof. Damien GRUSON

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Dr. Larry KRICKA

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Chapter 12

IFCC Awards

12.1. Awards Committee

Members

Name	Position	Country	Term	Time in Office
M. Ferrari	Chair	IT	2 nd	2021 03 - 2023 12
A. Gronowski	Member	US	2 nd	2021 05 - 2023 12
C. Haddad	Member	LB	2 nd	2021 05 - 2023 12
E. Hoyaranda	Member	ID	2 nd	2021 05 - 2023 12
T. Pillay	Member	ZA	2 nd	2021 05 - 2023 12
G. Russomando	Member	PY	2 nd	2021 05 - 2023 12
T. Zima	Member	CZ	2 nd	2021 05 - 2023 12

The 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 (1969 – 2017) IFCC-Howard Morris Distinguished Clinical Chemist Award (since 2020)

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 D.Y.M. Lo (HK)
2020 N. Rifai (US)

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
2020	G. Shannan (SY)

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)
2020	T. Annesley (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)
2020	A. Ferreira-Gonzalez (US)

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)
2020 D. Sacks (US)

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)
2020 G. Myers (US)

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)
2020 L.S. Eberlin (US)

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)
2020 F. Apple (US)

12.1.9 IFCC-G rard Siest Young Scientist Award for Distinguished Contributions in Pharmacogenetics

This award recognizes an outstanding young investigator or young leader (under 40 years of age) for his/her contribution to advancing the scientific discipline of pharmacogenomics and Personalized/Precision Medicine and/or its impact on research, development, standardization, quality management, regulatory evaluation or utilization in therapy. This award has been presented for the first time in 2020.

2020 J.B. Woillard (FR)

12.1.10 IFCC Distinguished Women Scientist Award for Contribution to In-Vitro Diagnostics

This award recognizes a woman who has made significant contributions to the development or utilization of In Vitro Diagnostics with emphasis on applications in primary healthcare. This award has been presented for the first time in 2020.

2020 S. Quijano (CO)

List of addresses

Chair

Prof. Maurizio FERRARI

Clinical Pathology University Vita-Salute
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Clinical Molecular Biology and
Cytogenetics Laboratory
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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	2 nd	2021 01 - 2023 12
R. Davey	Member	AU	2 nd	2021 07 - 2023 12
J. Wiencek	Member	US	1 st	2019 05 - 2021 12
SK Datta	Member	IN	1 st	2020 08 - 2022 12
J. Verona	Member	AR	1 st	2020 08 - 2022 12
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 guidance documents for member societies on ethics related issues
- To provide a voice for Laboratory Medicine on ethical issues

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 the TF can create documents that would be acceptable to all national societies. For that reason, the TF should instead focus on guidance documents to assist member societies to create their own unique policies and statements
- 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. In various parts of the world, individual professional organizations have raised awareness of ethics-related issues among their members and have produced documents addressing some of the key issues. Other organisations have not, and would like guidance on how to create such documents. 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 ethical issues in Laboratory Medicine. Laboratory Medicine organisations have a 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.

Task Force Chair Address:

Chair

Dr. Nilda FINK

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Calle 47 y 115, 1900 - La Plata - Argentina
E-mail: nfink@fbpba.org.ar

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

Membership

Name	Position	Country	Term	Time in Office
S. Fares Taie	Chair	AR	1 st	2020 01 - 2022 12
G. Sancesario	Co-Chair	IT	1 st	2020 01 - 2022 12
J. El-Khoury	Member	US	1 st	2019 01 - 2021 12
A. Rampul	Member	ZA	1 st	2019 01 - 2021 12
I.W. Masfufa	Member	ID	1 st	2020 03 - 2022 12
C. Imperiali	Member	ES	1 st	2020 03 - 2022 12
P. Kumar Dabla	Consultant	IN		
B. Das	SD Liaison	IN		

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.

Task Force Co-Chairs Addresses:

Dr. Santiago FARES TAIE

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13.1.12 Task Force on History (TF-H)

Membership

Name	Position	Country	Term	Time in Office
M.M. Müller	Chair	AU	1 st	2019 06 - 2021 12
B. Gouget	Co-Chair	FR	1 st	2019 06 - 2021 12

The IFCC Executive Board appointed Prof. Mathias M. Müller and Dr. Bernard Gouget, as co-chairs of the History TF, to prepare the next IFCC Milestones publication (2003-2020) to be available in Seoul and to write, after the 50th anniversary book (1952-2002), the new Anniversary Book (2002-2022) to celebrate the 70th IFCC anniversary.

Task Force Co-Chairs Addresses:

Prof. Mathias M. Müller

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Dr. Bernard Gouget

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13.1.15 Task Force Corporate Members (TF-CM)

Membership

Name	Position	Country	Term	Time in Office
T. Ravalico	Chair/Abbott	US	1 st	2021 01 - 2023 12
A. Ortisi	Secretary/Siemens	IT	1 st	2021 04 - 2023 12
J.S. Blanchet	Member/Beckman Coulter	FR	1 st	2019 04 - 2021 12
V. Chen	Member/Snibe	CN	1 st	2021 04 - 2023 12
B. Meyer	Member/Becton Dickinson	UK	1 st	2021 04 - 2023 12
J. Trafi Prats	Member/Ortho Clinical Diagnostics	ES	1 st	2019 04 - 2021 12
J. Passarelli	EB Corp. Rep. /Roche	US	1 st	2021 01 - 2023 12

Aim

The aim of IFCC TF-CM is to enable Corporate Members to make significant and growing contributions to the activities of IFCC, and to elevate key topics and priorities for the betterment of industry collaborations, laboratory medicine and health care.

Objectives

- To assist IFCC in promotion of science, innovation, and advancement of the essential contribution of laboratory medicine to health care
- To facilitate discussion among Corporate Members and identify common topics of interest and/or concern
- To improve the engagement of Corporate Members with the IFCC
- To serve as the “voice of industry” and be more accessible to all IFCC teams and leadership, enabling a more diverse understanding and appreciation of needs among corporate members and the IFCC
- To increase awareness with other Corporate Members of IFCC TF-CM and to encourage their participation in IFCC activities

Accountability

The TF-CM will report directly to the IFCC Executive Board. The Corporate Representative of the Executive Board will be a liaison to the EB while serving as a member of TF-CM. The TF-CM will prepare reports to the Executive Board on meeting outcomes.

Background

The IFCC Task Force Corporate Members (TF-CM) was approved by the IFCC Executive Board and established in 2019 in order to strengthen the collaboration between IFCC and its Corporate Members. Similar to other task forces, the TF-CM reports directly to the IFCC Executive Board. The TF-CM consists of the chair and 6 other members, including the secretary, the Corporate Representative at the IFCC Executive Board, and 3 other members. Members are elected by the IFCC EB from nominations from the corporate representatives. The corporate representatives from each of the other divisions are also invited and encouraged to attend the TF-CM meetings. Memberships on the TF-CM are for 3 years with the possibility of extension for an additional 3 years.

Areas of Focus

- The voice of corporate members within IFCC
- High impact and frequency of conferences/congresses
- Growth and sustainability of corporate members
- Effective, timely and enhanced communications among IFCC, Conference Organizing Secretariat, and Corporate Members

- Industry needs for IFCC involvement with regulators and clinical societies

Task Force Chair Address:

Tricia Ravalico

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13.1.16 IFCC Task Force on COVID-19

Membership

Name	Position	Country	Term	Time in Office
G. Lippi	Chair	IT	1 st	2020 03 - 2022 12
A.R. Horvath	Member	AU	1 st	2020 03 - 2022 12
D. Koch	Member	US	1 st	2020 03 - 2022 12
N. Mancini	Member	IT	1 st	2020 04 - 2022 12
S. Sethi	Member	SG	1 st	2020 03 - 2022 12
C.B. Wang	Member	CN	1 st	2020 04 - 2022 12
K.Y. Yuen	Member	HK	1 st	2020 04 - 2022 12

The leading objectives of this TF encompass the provision of regular updates on epidemiology, pathogenesis and laboratory diagnostics of COVID-19, the development of practical recommendations for harmonising the use of diagnostic tests for COVID-19 and biosafety measures for managing the specimens, as well as the organisation of international studies to improve the knowledge on pathogenesis, diagnostics and therapeutic management of COVID-19.

Terms of reference

- Establish and maintain an IFCC e-learning platform on COVID-19 (“IFCC Information Guide on COVID-19”), which provides regular updates on epidemiology, pathogenesis and laboratory testing of COVID-19
- Provide tentative guidance and consensus documents for harmonising the use of diagnostic and serological tests for COVID-19
- Provide tentative guidance for harmonising biosafety measures during management of COVID-19 specimens by clinical laboratories
- Address clinical, technical and organisational perspectives of laboratory-based and POC testing in COVID-19 patients and provide guidelines/recommendation when feasible
- Integrate data on COVID-19 laboratory abnormalities from all over the world, and promoting or coordinating new studies
- Evaluate opportunities, risks and safety of using non-conventional biological materials for diagnosing COVID-19
- Establish and maintain efficient distance learning channels, with organisation of webinars and providence of other informative material
- Maintain a repository of scientific articles on laboratory testing for diagnosing, prognosticating and monitoring COVID-19.

Task Force Chair Address:

Prof. Giuseppe Lippi

Full Professor of Clinical Biochemistry, University of Verona
Director, Service of Laboratory Medicine, University Hospital of Verona
Secretary of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)

Executive Editor-in-Chief, Annals of Translational Medicine
Editor in Chief, Journal of Laboratory and Precision Medicine
Associate Editor, Clinical Chemistry and Laboratory Medicine
Associate Editor, Seminars in Thrombosis and Hemostasis
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13.1.17 Task Force on Global Newborn Screening (TF-NBS)

Joint Task Force of IFCC and International Society of Newborn Screening (ISNS)

Membership

Name	Position	Country	Term	Time in Office
V. Leung-Pineda	Co-Chair	US	1 st	2021 01 - 2023 12
J. Bonham	Co-Chair/ISNS	UK	1 st	2021 01 - 2023 12
M.A. Ascurra de Duarte	Member	PY	1 st	2021 01 - 2023 12
F. Boemer	Member	BE	1 st	2021 01 - 2023 12
U. Ceglarek	Member	DE	1 st	2021 01 - 2023 12
A. Habib Khan	Member	PK	1 st	2021 01 - 2023 12
M. Kase	Member	FI	1 st	2021 01 - 2023 12
K. Valdyanathan	Member	IN	1 st	2021 01 - 2023 12
D. Webster	Member/ISNS	AU	1 st	2021 01 - 2023 12
E. Lebredonchel	Member/Young Scientist	FR	1 st	2021 01 - 2023 12
<i>To be nominated</i>	Member			

Scope & Mandate

- Select countries for IFCC's NBS Pilot Project via a call for participation to IFCC member societies using pre-defined selection criteria. A formal call for participation by developing countries will be issued soon by the IFCC office.
- Identify potential participating centres (e.g. healthcare facilities and laboratories) and stakeholders (e.g. government ministries and/or agencies) within each Partner Country.
- Engage with these centres in order to conduct situation assessment (i.e. information in regard to NBS-related diseases as well as resources/barriers in the Partner Country).
- Identify ways in which the IFCC can provide lacking resources and support.
- Develop a detailed protocol for an initial Pilot Project specific to each Partner Country. The proposal will be presented to the Partner Country via the respective IFCC member society. The Pilot Project implementation must be conditional on the Partner Country's commitment to its continuation following IFCC's initial financial support.
- Implement the Pilot Project in participating centres in each Partner Country in collaboration with the IFCC member society and other stakeholders.
- Monitor and evaluate the progress of the overall IFCC NBS Initiative, as well as the progress of specific Pilot Projects, through data collection and on-site/virtual visits by dispatching scientific teams to each Partner Country.
- Plan for the expansion of the IFCC's NBS Initiative, as well as the expansion of each NBS Pilot Project.

Task Force Co-Chairs Addresses:

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Prof. James R. BONHAM

International Society of Neonatal
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National Newborn Screening Laboratory
Lead United Kingdom - UK
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13.1.18 Task Force on Global Lab Quality (TF-GLQ)

Membership

Name	Position	Country	Term	Time in Office
E. Amann	Co-Chair	DE	1 st	2021 01 - 2023 12
Q. Meng	Co-Chair	US	1 st	2021 01 - 2023 12
I. Blasutig	Member & Secretary	CA	1 st	2021 01 - 2023 12
R. Bais	Member	AU	1 st	2021 01 - 2023 12
JM. Giannoli	Member	FR	1 st	2021 01 - 2023 12
A. Guimarães	Member	BR	1 st	2021 01 - 2023 12
P. Kumar Dabla	Member	IN	1 st	2021 01 - 2023 12
E. Lianidou	Member	GR	1 st	2021 01 - 2023 12
A. Perret-Liaudet	Member	FR	1 st	2021 01 - 2023 12
A. Thomas	Member	UK	1 st	2021 01 - 2023 12
A. Vassault	Member	FR	1 st	2021 01 - 2023 12
S. Wheeler	Member	US	1 st	2021 01 - 2023 12
C. Zhang	Member	CN	1 st	2021 01 - 2023 12
K. A. Cendejas	Corp. Rep./Bio-Rad	US	1 st	2021 01 - 2023 12
J. Lin	Corp. Rep./Abbott	US	1 st	2021 01 - 2023 12

Scope & Mandate

iQC Programme:

- Identify vendors capable of providing quality control materials and associated software for on-going monitoring.
- Develop training program for participating laboratories.
- Form scientific support teams to train and support staff on-site at participating laboratories.
- Plan for maintenance and monitoring of the iQC program by the IFCC.

EQA Programme:

- Through a call for applications to participate, select countries for the pilot program, and in collaboration with the respective member societies, select candidate participating laboratories within each country. A formal call for participation by developing countries will be issued soon by the IFCC office.
- Through on-site visits, evaluate the preparedness of the participating laboratories for subscription to the EQA program and identify gaps that must be addressed.
- Retain a vendor through an open bidding process to provide the EQA material and software for the EQA program.
- Develop detailed written guidelines for the participating laboratories.
- Dispatch scientific support teams to help initiate the EQA program at the participating labs. Expert teams will be formed by the taskforce from IFCC membership and will include both senior and young scientists.
- Plan for maintenance and monitoring of the EQA's progress by the IFCC.
- Develop a plan for expansion of the EQA program in respect of geographical scope and included laboratory tests.

Task Force Co-Chairs Addresses:

Prof. Egon Amann

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Dr. Qing Meng

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13.1.19 - TF Outcome Studies in Lab Medicine (TF-OSLM)

At the time of printing this Handbook the Task force was not formed. Please refer to the IFCC website to view the current project.

13.1.20 - TF Global Reference Interval Consortium (TF-GRIDLC)

At the time of printing this Handbook the Task force was not formed. Please refer to the IFCC website to view the current project.

13.1.21 Taskforce on Global eLearning/eAcademy (TF-GEL)

Membership

Name	Position	Country	Term	Time in Office
A. Park	Chair	UK	1 st	2021 01 - 2023 12
H. Can Çubukçu	Member	TR	1 st	2021 01 - 2023 12
R. El-Sharaway	Member	EG	1 st	2021 01 - 2023 12
M. Kneip Fleury	Member	BR	1 st	2021 01 - 2023 12
L. Langman	Member	US	1 st	2021 01 - 2023 12
P. Mitra	Member	IN	1 st	2021 01 - 2023 12
N. Tabatadze	Member	GE	1 st	2021 01 - 2023 12

Coordinators

Name	Position	Country	Term	Time in Office
R. Shresta	Asia Pacific area	NP	1 st	2021 01 - 2023 12
A. Fares-Taie	C. for Latin/North America area	AR	1 st	2021 01 - 2023 12
P. Hamilton	C. for Europe and Africa area	UK	1 st	2021 01 - 2023 12

Scope & Mandate

- Prepare initial terms of reference for a new taskforce on global eLearning/eAcademy
- Recruit Webinar Coordinator(s) with relevant technical and scientific expertise
- Initiate Live Monthly Webinars starting in January 2021, broadcast globally across different time zones, with each webinar consisting of a panel of 2-3 speakers and panel discussion
- Initiate development of recorded webinars for publication on the eAcademy platform
- Create new online courses, certificate programs, practical workshops, and tutorials delivered through Workcast or eAcademy

Deliverables

Development of eLearning programs in the field of laboratory medicine, which include:

- Live Webinars – Global Broadcast
- Recorded Webinars for the eAcademy Platform

- Online courses and certificate programs
- Online practical workshops and tutorials

Task Force Chair Address:

Dr. Adrian PARK

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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: <https://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 should 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 follows similar rules to those specified above, although it may be possible for the scholarship recipient to attend a congress or conference in his/her own country:

- IFCC 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 July 13, 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 authorised 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 authorised 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.
- 6.7. 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 recognise 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 nominee's 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 individual 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, members are: the President, the Secretary and in 2023 also the President-elect will be a FAC Member. For the period 2021-2023 members of the Financial Advisory Committee are:

TREASURER

Prof. Alexander HALIASSOS

ESEAP - Greek Proficiency Testing Scheme
for Clinical Laboratories
GSCC-CB
GR-106 76 Athens - Greece
E-mail: haliassos@moleculardiagnosics.gr

PRESIDENT

Prof. Khosrow ADELI

Pediatric Laboratory Medicine
The Hospital for Sick Children
University of Toronto
Ontario M5G 1X8 - Canada
E-mail: president@ifcc.org

SECRETARY

Dr. David KINNIBURGH

Alberta Centre for Toxicology
University of Calgary
Alberta T2N 4N1 – Canada
E-mail: dkinnibu@ucalgary.ca

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 2023 meeting in Rome.

16.3.2. Members

Name	Position	Country	Term	Time in Office
L. Lai	Chair	MY	1 st	2021 05 - 2023 12
G. Beastall	Past Chair	UK	1 st	2021 01 - 2023 12
<i>AFCB Regional Federation</i>				
O. Najjar	Representative	PS	2 nd	2021 06 - 2023 12
<i>AFCC Regional Federation</i>				
A. Amayo	Representative	KE	2 nd	2021 06 - 2023 12
<i>APFCB Regional Federation</i>				
E. Hoyaranda	Representative	ID	2 nd	2021 06 - 2023 12
<i>COLABIOCLI Regional Federation</i>				
R. Sierra-Amor	Representative	MX	1 st	2021 06 - 2023 12
<i>EFLM Regional Federation</i>				
K. Kohse	Representative	DE	1 st	2021 06 - 2023 12
<i>NAFCC Regional Federation</i>				
N. Lepage	Representative	CA	2 nd	2021 06 - 2023 12

16.3.3. List of Addresses

Chair

Prof. Leslie LAI

Suite 7.09

MOB, Gleneagles Intan Medical Centre

282 Jalan Ampang 50450 Kuala Lumpur - MY

E-mail: Lesliecharleslai@gmail.com

Past Chair

Dr. Graham H BEASTALL

'Laboratory Medicine Consulting'

Mayfield, Birdston, Kirkintilloch

Glasgow G66 1RW UK

E-mail: gbeastall@googlemail.com

AFCB Regional Federation Representative

Dr. Osama Najjar

General Director

Allied Health Professions Ministry of Health (MOH)

Palestine

E-mail: doctor91@hotmail.com

AFCC Regional Federation Representative

Dr. Angela AMAYO

University of Nairobi

P.O. Box 19434 00202 - KNH Nairobi - Kenya

E-mail: aamayo2@gmail.com; angela.amayo@uonbi.ac.ke

APFCB Regional Federation Representative

Dr. Endang HOYARANDA

Prodia Clinical Laboratory - Prodia Group

Kramat Raya 150 - Jakarta 104030 - Indonesia

E-mail: endang.hoyaranda@prodia.co.id

COLABIOCLI Regional Federation Representative

Dr. Rosa SIERRA-AMOR

LAQUIMS, S.C. Clinical Laboratory
Veracruz 91700 - Mexico
Email: rosa.sierra.amor@gmail.com

EFLM Regional Federation Representative

Prof. Klaus P. KOHSE

School of Medicine and Health Sciences
Carl von Ossietzky University of Oldenburg (Germany)
Kurt-Schumacher-Str. 18 - 26131 Oldenburg - Germany
Email: Klaus.peter.kohse@uol.de

NAFCC Regional Federation Representative

Dr. Nathalie LEPAGE

Laboratory Head, Inherited Metabolic Diseases- Newborn Screening Ontario
415 Smyth Road - Ottawa, ON, K1H 8M8 - Canada
E-mail: nlepage@cheo.on.ca

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. Milano 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. Milano 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
- 1.1.137. Tunis 2019
- 1.1.138. Barcelona 2019
- 1.1.139. Jaipur 2019
- 1.1.140. Milan 2020
- 1.1.141. Conference Call March-April 2020
- 1.1.142. Conference Call April 2020
- 1.1.143. Conference Call May 2020
- 1.1.144. Conference Call June 2020
- 1.1.145. Conference Call July 2020
- 1.1.146. Conference Call September 2020
- 1.1.147. Conference Call October 2020
- 1.1.148. Conference Call November-December 2020
- 1.1.149. Conference Call January 2021
- 1.1.150. Conference Call February 2021
- 1.1.151. Conference Call March 2021
- 1.1.152. Conference Call April 2021
- 1.1.153. Conference Call May 2021
- 1.1.154. Conference Call June 2021
- 1.1.155. Conference Call July 2021

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
- 2.1.80. 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
- 2.1.91. 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
- 2.1.105. Palestine
- 2.1.106. Panama
- 2.1.107. Georgia
- 2.1.108. Iraq
- 2.1.109. Myanmar
- 2.1.110. Peru

2.2 Applications

2.3 Withdrawal - Suspended Members

- 2.1.78. Honduras
- 2.1.90. Peru
- 2.1.104. Belarus

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
- 3.1.61. 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. 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
- 3.1.88. Shanghai Zhicheng Biological Technology Co, Ltd
- 3.1.90. Snibe Co., Ltd
- 3.1.91. Fujirebio Europe
- 3.1.92. Diatron
- 3.1.95. Helena Biosciences Europe
- 3.1.96. MedicalSystem Biotechnology Co., Ltd.
- 3.1.97. Shanghai Kehua Bio-Engineering Co., Ltd.
- 3.1.99. Hemas Hospitals (PVT) Ltd.
- 3.1.101. ET Healthcare Inc.
- 3.1.102. Nittobo Medical Co. Ltd.
- 3.1.106. Labtronic
- 3.1.107. Tosoh Corporation
- 3.1.108. Wuhan Life Origin Biotech Joint Stock Co., Ltd. – Szybio
- 3.1.109. Megalab, JSC
- 3.1.110. LumiraDx
- 3.1.111. Shenzhen YHLO Biotech Co., Ltd
- 3.1.112. Technogenetics

3.2. Applications

3.3. Withdrawals – Suspended Members

- 3.1.86. PPD Inc.
- 3.1.89. ADx Neurosciences
- 3.1.60. Analis R&D Diag
- 3.1.93. Guangzhou Wondfo Biotech Co. Ltd.
- 3.1.98. Beijing Dream Diagnostics Medicine (DDM) Technology Co. Ltd.
- 3.1.100. Timedico A/S – Sarstaedt
- 3.1.103. SCL Healthcare
- 3.1.104. Agilent
- 3.1.105. Zhejiang Quark Biotechnology Co., Ltd

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 Analistas (AEFA)
- 4.1.5. Sociedade Brasileira de Patologia Clínica / Medicina Laboratorial (SBPC/ML)
- 4.1.9. Philippine Council for Quality Assurance in Clinical Laboratories (PCQACL)
- 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
- 4.1.20. Kazakhstan Public Association - Federation of Laboratory Medicine (FLM)
- 4.1.21. French National Network of accredited Laboratories of Medical Biology (LABAC)
- 4.1.22. Serbian Society for Clinical Laboratory Medicine and Science (SCLM)
- 4.1.23. Sociedad Andaluza de Análisis Clínicos (SANAC)
- 4.1.24. Order of the Biochemists, Biologists, Chemists in Romanian Health System (OBBCSSR)
- 4.1.25. College of Chemical Pathologists of Sri Lanka (CCPSL)

4.2. Applications

4.3. Withdrawals - Suspended Members

- 4.1.3. Regional Association for Clinical Laboratory Diagnosis, St. Petersburg

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)

6.39. International Society on Thrombosis and Haemostasis

6.40. International Association of Therapeutic Drug Monitoring and Clinical Toxicology (IATDMCT)

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 (ICCLM)

- 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
- 16. 2022 - Seoul

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
25. 2022 - Leon

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
16. 2021 - Beirut

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
6. 2019 - Harare
7. 2021 - Lusaka

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 Pharmacogenetics

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 EFLMAFCB Conference – Laboratory Medicine meeting the needs of Mediterranean Nations.

7.4.10. Critical Role of Clinical Laboratories in the COVID-19 Pandemic

1. 2021 - Virtual IFCC Global Conference on COVID-19

- 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)
- 8.2.27. Bone Metabolism (C-BM)

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)
- 8.3.49. CSF Protein (WG-CSF)
- 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)
- 8.3.60. Continuous Glucose Monitoring (WG-CGM)
- 8.3.61. Development of a Reference Measurement System for sustainable PT/INR Standardisation (WG-PT/INR)

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)
- 9.2.7. Evidence Based on Laboratory Medicine (C-EBLM)
- 9.2.9. Clinical Laboratory Management (C-CLM)
- 9.2.11. Education in the Use of Biomarkers in Diabetes (C-EUDB)
- 9.2.12. Cardiac Biomarkers (C-CB)
- 9.2.13. Chronic Kidney Disease (C-CKD)
- 9.2.14. Point of Care Testing (C-POCT)
- 9.2.16. Value Proposition for Laboratory Medicine (C-VPLM)

9.3. Working Groups

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

9.5. 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 eLearning (C-IeL)

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

- 11.3.1. Guidance for the implementation of custom-made genomic panels (WG-CGP)
- 11.3.2. Volatolomics (WG-Vol)
- 11.3.3. Artificial Intelligence and Genomic Diagnostics (WG-AIGD)
- 11.3.4. Single Cell and Spatial Transcriptomics (WG-SCST)

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)
 - 18. 2020 N Rifai (US)
- 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)
 - 14. 2020 G. Shannan (SY)
- 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)
 - 8. 2020 T. Annesley (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. 2020 A. Ferreira-Gonzalez (US)
- 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)
 5. 2020 D. Sacks (US)
- 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)
 5. 2020 G. Myers (US)
- 12.1.7. IFCC Young Investigator Award
1. 2011 R Chiu (HK)
 2. 2014 G Baird (US)
 3. 2017 R. Shrestha (NP)
 4. 2020 L.S. Eberlin (US)
- 12.1.8. IFCC Distinguished Award for Contributions to Cardiovascular Diagnostics
1. 2017 J.H. Ladenson (US)
 2. 2020 F. Apple (US)
- 12.1.9. Gérard Siest-Biologie Prospective Award
1. 2020 J.B. Woillard (FR)
- 12.1.10. IFCC Distinguished Women Scientist Award for Contribution to In-Vitro Diagnostics
1. 2020 S. Quijano (CO)

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)
- 13.1.12 Task Force on History (TF-H)
- 13.1.15 Task Force Corporate Members (TF-CM)
- 13.1.16 Task Force COVID-19
- 13.1.17 Task Force on Global Newborn Screening (TF-NBS)
- 13.1.18 Task Force on Global Lab Quality (TF-GLQ)
- 13.1.19 Taskforce on Outcome Studies in Lab Medicine (TF-OSLM)
- 13.1.20 Taskforce on Global Reference Interval Database (TF-GRID)
- 13.1.21 Taskforce on Global eLearning/eAcademy (TF-GEL)

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

**postponed from 2020 due to COVID-19 pandemic*

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

19.8. EB Meetings & International Relationships

- 19.8.1. President's International Relationships

20. Inter-EB Correspondence

Chapter 17
IFCC Publications 2018-2020

IFCC Scientific Division (SD)

IFCC and IUPAC Joint Committee for Nomenclature, Properties and Unit (C-NPU)

1. Hansen YBL: Recommendations on measurement units – why and how? eJIFCC 2019; 30: 250-275
2. Wikipedia page for the NPU Terminology: https://en.wikipedia.org/wiki/NPU_terminology

IFCC Committee on Molecular Diagnostics (C-MD)

1. Payne DA, Russomando G, Linder MW, Baluchova K, Ashavaid T, Steimer W, Ahmad-Nejad P, and the IFCC Committee for Molecular Diagnostics (C-MD). External quality assessment (EQA) and alternative assessment procedures (AAP) in molecular diagnostics: Findings of an International Survey. Clin Chem Lab Med 2021; 59:301–306. <https://doi.org/10.1515/cclm-2020-0101> PMID: 32383687
2. 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; 57:78-88. <https://doi.org/10.1515/cclm-2017-1080> PMID: 29729139

IFCC Committee on Traceability in Laboratory Medicine (C-TLM)

1. The results of RELA2020 are published on the website <http://www.dgkl-rfb.de:81>
2. The results of RELA2019 have been evaluated and published: <http://www.dgkl-rfb.de:81>
3. The results of RELA2018 have been evaluated and published: <http://www.dgklrfb.de:81>

IFCC Committee on Reference Intervals and Decision Limits (C-RIDL)

1. Martinez-Sanchez L, Marques-Garcia F, Ozarda Y et.al. Big data and reference intervals: rationale, current practices, harmonization and standardization prerequisites and future perspectives of indirect determination of reference intervals using routine data. Adv Lab Med 2020. <https://doi.org/10.1515/almed-2020-034>
2. Ozarda Y, Sikaris K, Streichert T, Macri J et al., on behalf of IFCC Committee on Reference intervals and Decision Limits (C-RIDL). Distinguishing reference intervals and clinical decision limits - A review by the IFCC Committee on Reference Intervals and Decision Limits. Crit Rev Clin Lab Sci. 2018; 55: 420-431. <https://doi:10.1080/10408363.2018.1482256> PMID: 30047297
3. Jones GRD, Haeckel R, Loh TP, Sikaris K, Streichert T, Katayev A, Barth JH, Ozarda Y; IFCC Committee on Reference Intervals and Decision Limits. Indirect methods for reference interval determination - review and recommendations. Clin Chem Lab Med. 2018; 57: 20-29. <https://doi.org/10.1515/cclm-2018-0073> PMID: 29672266
Other article directly related to the C-RIDL projects:
4. Ozarda Y, Higgins V, Adeli K. Verification of reference intervals in routine clinical laboratories: practical challenges and recommendations. Opinion Paper, Clin Chem Lab Med 2018; 57: 30-37. <https://doi.org/10.1515/cclm-2018-0059>

IFCC Committee on Standardisation of Thyroid Function Tests (C-STFT)

1. Yoshihara A, Noh JY, Watanabe N, Iwaku K, Kunii Y, Ohye H, Suzuki M, Matsumoto M, Suzuki N, Sugino K, Thienpont LM, Hishinuma A, Ito K. Seasonal changes

in serum thyrotropin concentrations observed from big data obtained during six consecutive years from 2010 to 2015 at a single hospital in Japan. *Thyroid*. 2018; 28:429-436. <https://doi.org/10.1089/thy.2017.0600>

IFCC Committee on Harmonization of Autoimmune Tests (C-HAT)

1. Monogioudi E; Zegers I; Hutu DP; Sheldon J; Schimmel H; Meroni PL. Certified Reference Material against PR3 ANCA IgG autoantibodies. From development to certification. *Clin Chem Lab Med*. 2019; 57:1197-1206. <https://doi.org/10.1515/cclm-2018-1095> PMID: 30789822
2. Monogioudi E, Martos, G, Sheldon J, Meroni PL, Trapmann S, Zegers I. Development of a candidate certified reference material for anti-beta 2 glycoprotein I IgG – commutability studies, *Clin Chem Lab Med* 2021; 59:325–332. <https://doi.org/10.1515/cclm-2020-0995>
3. Evanthia Monogioudi; Ingrid Zegers Dana P Hutu; Gustavo Martos; Joanna Sheldon; Heinz Schimmel; Pier Luigi Meroni; “Standardisation of autoimmune testing – is it feasible?” *Clin Chem Lab Med* 2018; 56:1734–1742. <https://doi.org/10.1515/cclm-2017-1077>

IFCC Committee on Bone Metabolism (C-BM)

1. Bhattoa HP, Cavalier E, Eastell R, Heijboer AC, Jørgensen NR, Makris K, Ulmer CZ, Kanis JA, Cooper C, Silverman SL, Vasikaran SD; IFCC-IOF Committee for Bone Metabolism. Analytical considerations and plans to standardize or harmonize assays for the reference bone turnover markers PINP and β -CTX in blood. *Clin Chim Acta* 2021; 515:16-20. <https://doi.org/10.1016/j.cca.2020.12.023>. PMID: 33382995
2. Cavalier E, Eastell R, Jørgensen NR, Makris K, Tournis S, Vasikaran S, Kanis JA, Cooper C, Pottel H, Morris HA. A multicenter study to evaluate harmonization of assays for C-terminal telopeptides of type I collagen (ss-CTX): A report from the IFCC-IOF Committee for Bone Metabolism (C-BM). *Calcif Tissue Int*. 2021. <https://doi.org/10.1007/s00223-021-00816-5> PMID:33661343
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5. Cavalier E, Vasikaran S, Bhattoa HP, Heijboer AC, Makris K, Ulmer CZ. The path to the standardization of PTH: Is this a realistic possibility? a position paper of the IFCC C-BM. *Clin Chim Acta* 2021; 515: 44-51. <https://doi.org/10.1016/j.cca.2020.12.022>
6. Cavalier E, Eastell R, Rye Jørgensen N, Makris K, Tournis S, Vasikaran S, Kanis JA, Cooper C, Pottel H, Morris HA; IFCC-IOF Joint Committee for Bone Metabolism (C-BM).A multicenter study to evaluate harmonization of assays for N-terminal propeptide of type I procollagen (PINP): a report from the IFCC-IOF Joint

Committee for Bone Metabolism. Clin Chem Lab Med. 2019; 57:1546-1555. <https://doi.org/10.1515/cclm-2019-0174> PMID: 31085740

IFCC Working Group on Standardisation of Hemoglobin A₂ IFCC Working Group on Standardisation of Hemoglobin A₂ - Joint Working Group with ICSH (International Council for Standardization in Haematology) since 2020 (WG-HbA₂)

1. Mosca A, Paleari R, Hartevelde CL; IFCC ICSH Joint Working Group for standardization of HbA₂. A roadmap for the standardization of hemoglobin A₂. Clin Chim Acta. 2021; 512:185-190. <https://doi.org/10.1016/j.cca.2020.11.008> PMID:33181152
2. Paleari R, Ceriotti F, Hartevelde 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.cca.2017.12.001> .
3. Arsene CG, Kaiser P, Paleari R, Henrion A, Spannagl M, Mosca A, on behalf of the IFCC Working Group on Standardisation of Hemoglobin A₂ (WG-HbA₂). Determination of HbA₂ by quantitative bottom-up proteomics and isotope dilution mass spectrometry. Clin Chim Acta. 2018; 487:318-324. <https://doi.org/10.1016/j.cca.2018.10.024> PMID: 30342003

IFCC Working Group on Standardization of Albumin Assay in Urine – in collaboration with NKDEP (WG-SAU)

1. Miller WG, Bachmann LM, Fleming JK, Delanghe JR, Parsa A, Narva AS.; Laboratory Working Group of the National Kidney Disease Education Program and the IFCC Working Group for Standardization of Albumin in Urine. Recommendations for reporting low and high values for urine albumin and total protein. [Letter to the Editor]. Clin Chem. 2019; 65:349-350. <https://doi.org/10.1373/clinchem.2018.297861> PMID: 30459169

IFCC Working Group on Standardization of TnI (WG-TnI)

The following recommendation was made in the clinical practice guidelines promulgated by the AACC academy and IFCC TF-CACB in 2018.

1. Recommendation 8: Commutable materials should be developed for use in harmonizing and standardizing cTn.
This recommendation resulted was discussed in a section of the Clinical Practice Guidelines titled 'Harmonizing and Standardizing' and serves to highlight the importance of our work in developing RM 2922.
2. 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 Commutability (WG-C)

IFCC Working Group on Commutability in Metrological Traceability since 2020 (WG-CMT)

1. Miller GW, Schimmel H, Rej R, Greenberg N, Ceriotti F, Burns C, Budd JR, Weykamp C, Delatour V, Nilsson G, MacKenzie F, Panteghini M, Keller T, Camara JE, Zegers I, Vesper HW, for the IFCC Working Group on Commutability (WG-C). IFCC working group recommendations for assessing commutability part 1: general experimental design. *Clin Chem* 2018;64: 447-54. <https://doi.org/10.1373/clinchem.2017.277525>
2. Nilsson G, Budd JR, Greenberg N, Delatour V, Rej R, Panteghini M, Ceriotti F, Schimmel H, Weykamp C, Keller T, Camara JE, Burns C, Vesper HW, MacKenzie F, Miller GW, for the IFCC Working Group on Commutability (WG-C). IFCC working group recommendations for assessing commutability part 2: using the difference in bias between a reference material and clinical samples. *Clin Chem* 2018; 64: 455-64. This paper includes a worked example as supplemental information. <https://doi.org/10.1373/clinchem.2017.277541>
3. Budd JR, Weykamp C, Rej R, MacKenzie F, Ceriotti F, Greenberg N, Camara JE, Schimmel H, Vesper HW, Keller T, Delatour V, Panteghini M, Burns C, Miller GW, for the IFCC Working Group on Commutability (WG-C). IFCC working group recommendations for assessing commutability part 3: based on the calibration effectiveness of a reference material. *Clin Chem* 2018; 64: 465-74. This paper includes additional example data and statistical tools as supplemental information. <https://doi.org/10.1373/clinchem.2017277558>
4. Miller WG, Budd J, Greenberg N, Weykamp C, Althaus H, Schimmel H, Panteghini M, Delatour V, Ceriotti F, Keller T, Hawkins D, Burns C, Rej R, Camara JE, MacKenzie F, van der Hagen E, Vesper H, for the IFCC Working Group on Commutability. IFCC Working Group recommendations for correction of bias caused by non-commutability of a certified reference material used in the calibration hierarchy of an end-user measurement procedure. *Clin Chem* 2020; 66:769-78. <https://doi.org/10.1093/clinchem/hvaa048>
5. Miller WG, Greenberg N, Budd J, Delatour V; IFCC Working Group on Commutability in Metrological Traceability. The evolving role of commutability in metrological traceability. *Clin Chim Acta*. 2021; 514: 84-89. <https://doi.org/10.1016/j.cca.2020.12.021> PMID: 33359496

IFCC Working Group on Immunosuppressive Drugs (WG-ID)

1. Participation of several WG members (Seger, Langman, Kunicki, Pawinski, Wieland, Shipkova) in the preparation of the guidance publication: Bergan S. et al. Mycophenolate personalized therapy: Consensus report by the International Association of Therapeutic Drug Monitoring and Clinical Toxicology. *Therapeutic Drug Monitoring*, 2021; 43: 150-200. <https://doi.org/10.1097/FTD0000000000000871>

IFCC Working Group on Apolipoproteins by Mass Spectrometry (WG-APO MS)

1. Cobbaert CM, Althaus H, Begcevic Brkovic I, Ceglarek U, Coassin S, Delatour V, Deprez L, Dikaios I, Dittrich J, Hoofnagle AN, Kostner GM, Kronenberg F, Kuklennyik Z, Prinzing U, Vesper HW, Zegers I, Ruhaak LR; IFCC Working Group for Standardization of Apolipoproteins by Mass Spectrometry. Towards an SI-traceable reference measurement system for seven serum apolipoproteins using bottom-up quantitative proteomics: Conceptual approach enabled by cross-disciplinary/

cross-sector collaboration. *Clin Chem*. 2021; 67:478-489. <https://doi.org/10.1093/clinchem/hvaa239>. PMID:33331636

2. Ruhaak LR, Cobbaert CM., Quantifying apolipoprotein(a) in the era of proteoforms and precision medicine, *Clin Chim Acta*. 2020; 511:260-268. <https://doi.org/10.1016/j.cca.2020.10.010> .

Members of the group have participated in several related publications:

1. Orsi FA, Lijfering WM, Van der Laarse A, Ruhaak LR, Rosendaal FR, Cannegieter SC, Cobbaert C. Association of apolipoproteins C-I, C-II, C-III and E with coagulation markers and venous thromboembolism risk. *Clin Epidemiol*. 2019; 11: 625-633 <https://doi.org/10.2147/CLEP.S196266>
2. Ruhaak LR, Van der Laarse A, Cobbaert CM. Apolipoprotein profiling as a personalized approach to the diagnosis and treatment of dyslipidaemia. *Annals of Clinical Biochemistry*. 2019; 56: 338-356. <https://doi.org/10.1177/0004563219827620>
3. Dittrich J, Beutner F, Teren A, Thiery J, Burkhardt R, Scholz M, Ceglarek U. Plasma levels of apolipoproteins C-III, A-IV, and E are independently associated with stable atherosclerotic cardiovascular disease. *Atherosclerosis*. 2019; 1:17-24. <https://doi.org/10.1016/j.atherosclerosis.2018.11.006>
4. Bodde MC, Hermans MPJ, Jukema JW, et al. Apolipoproteins A1, B, and apoB/apoA1 ratio are associated with first ST-segment elevation myocardial infarction but not with recurrent events during long-term follow-up. *Clin Res Cardiol* 2019; 108: 520-538 <https://doi.org/10.1007/s00392-018-1381-5> .
5. Delatour V, Clouet-Foraison N, Gaie-Levrel F, et al. Comparability of lipoprotein particle number concentrations across ES-DMA, NMR, LC-MS/MS, immunonephelometry, and VAP: In search of a candidate reference measurement procedure for apoB and nonHDL-P standardization. *Clin Chem* 2018; 64: 1485-1495. <https://doi.org/10.1373/clinchem.2018.288746> .
6. Ruhaak LR, Smit NPM, Suchiman HED, et al. MS-based proteomics: a metrological sound and robust alternative for apolipoprotein E phenotyping in a multiplexed test. *Clin Chem Lab Med* 2019; 57: e102-e104. <https://doi.org/10.1515/cclm-2018-0782>.
7. Ruhaak LR, Smit NPM, Romijn F, et al. Robust and accurate 2-year performance of a quantitative mass spectrometry-based apolipoprotein test in a clinical chemistry laboratory. *Clin Chem* 2018; 64: 747-749. <https://doi.org/10.1373/clinchem.2017.285098> .
8. Dittrich J, Adam M, Maas H, et al. Targeted on-line SPE-LC-MS/MS assay for the quantitation of 12 apolipoproteins from human blood. *Proteomics* 2018; 18 2017/12/28. <https://doi.org/10.1002/pmic.201700279> .

IFCC Working Group on IFCC Working Group on Pancreatic Enzymes (WG-PE)

1. Deprez L, Toussaint B, Zegers I, Schimmel H, Grote-Koska D, Klauke R, Gella FJ, Orth M, Lessinger JM, Trenti T, Nilsson G, Ceriotti F. Commutability assessment of candidate reference materials for pancreatic α -amylase. *Clin Chem* 64;1193-1202. <https://doi.org/10.1373/clinchem.2018.289744>

IFCC Working Group on Faecal Immunochemical Testing (WG-FIT)

1. Benton SC, Symonds E, Djedovic N, Jones S, Deprez L, Kocna P, Maria Auge J; International Federation of Clinical Chemistry Faecal Immunochemical Test Working Group (IFCC FIT-WG). Faecal immunochemical tests for haemoglobin: Analytical challenges and potential solutions. *Clin Chim Acta*. 2021; 517:60-65. <https://doi.org/10.1016/j.cca.2021.01.024>

IFCC Working Group on Standardization of Procalcitonin assays (WG-PCT)

1. Huynh HH, Bœuf A, Vinh J, Delatour V; IFCC Working Group on Standardization of Procalcitonin assays (WG-PCT). Evaluation of the necessity and the feasibility of the standardization of procalcitonin measurements: Activities of IFCC WG-PCT with involvement of all stakeholders. *Clin Chim Acta*. 2021; 515:111-121. <https://doi.org/10.1016/j.cca.2021.01.004> PMID: 33450213

IFCC Working Group on Continuous Glucose Monitoring (WG-CGM)

1. Freckmann G, Nichols JH, Hinemann R et al. Standardization process of continuous glucose monitoring: traceability and performance. *Clin Chim Acta*. 2021; 515: 5-12. <https://doi.org/10.1016/j.cca.2020.12.025> .

IFCC Working Group on Clinical Quantitative Mass Spectrometry Proteomics (WG-cMSP).

1. Hirtz C, Bros P, Brede C, Lescuyer P, Maceski AM, Vialaret J, Delatour V, Lehmann S; Regulatory context and validation of assays for clinical mass spectrometry proteomics (cMSP) methods. *Crit Rev Clin Lab Sci*. 2018; 55: 346-358. <https://doi.org/10.1080/10408363.2018.1470159> . PMID: 29792094

IFCC Education and Management Division (EMD)

IFCC Committee on Clinical Applications of Cardiac Bio-Markers (C-CB)

1. Apple FS, Fantz CR, Collinson PO; IFCC Committee on Clinical Application of Cardiac Bio-Markers. Implementation of high-sensitivity and point-of-care cardiac troponin assays into practice: Some different thoughts. *Clin Chem* 2021; 67:70-78. <https://doi.org/10.1093/clinchem/hvaa264>. PMID: 33279984
2. Apple FS, Collinson PO, Kavsak PA, Body R, Ordóñez-Llanos J, Saenger AK, Omland T, Hammarsten O, Jaffe AS; IFCC Committee Clinical Application of Cardiac Biomarkers. The IFCC clinical application of cardiac biomarkers committee's appraisal of the 2020 ESC guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: Getting cardiac troponin right. *Clin Chem* 2021; 67:hvaa337. <https://doi.org/10.1093/clinchem/hvaa337> . PMID: 33377906
3. Collinson PO, Saenger AK, Apple FS; IFCC C-CB. High sensitivity, contemporary and point-of-care cardiac troponin assays: educational aids developed by the IFCC Committee on Clinical Application of Cardiac Bio-Markers. *Clin Chem Lab Med* 57 :623-632. <https://doi.org/10.1515/cclm-2018-1211> . PMID: 30530880

IFCC Committee on Laboratory Errors and Patient Safety (WG-LEPS)

1. Sciacovelli L, Lippi G, Sumarac Z, Del Pino Castro IG, Ivanov A, De Guire V, Coskun C, Aita A, Padoan A, Plebani M; Pre-analytical quality indicators in laboratory medicine: Performance of laboratories participating in the IFCC Working Group "Laboratory Errors and Patient Safety" project. *Clin Chim Acta*. 2019; 497:35-40. <https://doi.org/10.1016/j.cca.2019.07.007> . PMID:31295446

IFCC Emerging Technologies Division (ETD)

Executive Committee

1. Gruson D, Bernardini S, Dabla PK, Gouget B, Stankovic S. Collaborative AI and laboratory medicine integration in precision cardiovascular medicine *Clin Chim Acta* 2020; 509: 67-71. <https://doi.org/10.1016/j.cca.2020.06.001>
2. Gruson D, Ko G, Luu D. COVID-19: Armageddon before light? *eJIFCC* 2020; 31: 103-105 PMID 32549877
3. Greaves RF, Bernardini S, Ferrari M, Fortina P, Gouget B, Gruson D, Lang T, Loh TP, Morris HA, Park JY, Roessler M, Yin P, Kricka LJ. Key questions about the future of laboratory medicine in the next decade of the 21st century: A report from the IFCC-Emerging Technologies Division *Clin Chim Acta*; 495: 570-589. <http://doi.org/10.1016/j.cca.2019.05.021>
4. Molero A, Calabro M, Vignes M, Gouget B, Grusaon D. Sustainability in healthcare: perspectives and reflections around laboratory. *Ann Lab Med*. 2021; 41: 139-144. <https://doi.org/10.3343/alm.2021.41.2.139>
5. Gouget B, Gruson D., Bernardini S. Promoting BCLF identity in Belgrade with the e-nergized SMBS. *J Med Biochem* 37: 1–5, 2019.

IFCC Working Group on Artificial Intelligence and Genomic Diagnostics (WG-AIGD)

1. Kricka LJ, Polevikov S, Park JY, Fortina P, Bernardini S, Satchkov D, Kolesov V, Grishkov M. Artificial Intelligence – powered search tools and resources in the fight against COVID-19 *eJIFCC* 2020; 31: 106-116

IFCC Task Forces

IFCC Taskforce on COVID-19 (TF-COVID-19)

1. Thompson S, Bohn MK, Mancini N, Loh TP, Wang CB, Grimmier M, Yuen KY, Mueller R, Koch D, Sethi S, Rawlinson WD, Clementi M, Erasmus R, Leportier M, Kwon GC, Menezes ME, Patru MM, Gramegna M, Singh K, Najjar O, Ferrari M, Lippi G, Adeli K, Horvath AR; IFCC Taskforce on COVID-19 IFCC Interim guidelines on biochemical/hematological monitoring of COVID-19 patients. *Clin Chem Lab Med*. 2020; 58: 2009-2016. <https://doi.org/10.1515/cclm-2020-1414> .PMID:33027044
2. Bohn MK, Loh TP, Wang CB, Mueller R, Koch D, Sethi S, Rawlinson WD, Clementi M, Erasmus R, Leportier M, Grimmier M, Yuen KY, Mancini N, Kwon GC, Menezes ME, Patru MM, Gramegna M, Singh K, Najjar O, Ferrari M, Horvath AR, Lippi G, Adeli K; and the IFCC Taskforce on COVID-19. IFCC Interim Guidelines on Serological Testing of Antibodies against SARS-CoV-2. *Clin Chem Lab Med*. 2020;58 :2001-2008. <https://doi.org/10.1515/cclm-2020-1413>. PMID: 33027043
3. Lim CY, Bohn MK, Lippi G, Ferrari M, Loh TP, Yuen KY, Adeli K, Horvath AR; IFCC Task Force on COVID-19. Staff rostering, split team arrangement, social distancing (physical distancing) and use of personal protective equipment to minimize risk of workplace transmission during the COVID-19 pandemic: A simulation study. *Clin Biochem*. 2020; 86:15-22. <https://doi.org/10.1016/j.clinbiochem.2020.09.003> . PMID: 32926883

Chapter 18

IFCC Foundation for Emerging Nations

18. IFCC Foundation for Emerging Nations

The IFCC Foundation for Emerging Nations (Foundation) was 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 current 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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