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Chapter 9: Education and Management Division

9.1. Executive

L. Lai (MY)

9.2. Committees

9.2.4. Clinical Molecular Biology Curriculum (C-CMBC) E. Liandou (GR)
9.2.5. Analytical Quality (C-AQ) E. Amann (DE)
9.2.7. Evidence Based Laboratory Medicine (C-EBLM) C. Florkowski (NZ)
9.2.9. Clinical Laboratory Management (C-CLM) S. Yenice (TR)
9.2.10. Distance Learning (C-DL) J. Smith (UK)

9.3. Working Groups

9.3.8. Laboratory Errors and Patient Safety (WG-LEPS) L. Sciacovelli (IT)
9.3.9. Cancer Genomics (WG-CG) J. Park (US)
9.3.10. Harmonisation of Interpretive Comments EQA (WG-ICQA) S. Vasikaran (AU)

9.4. Special Projects

9.4.1. Visiting Lecturer Programme (VLP) E. Frank (IN)
9.4.2. Flow Cytometry (WG-FC) U. Sack (DE)
9.4.3. Developing Quality Competence in Medical Laboratories (DQCML)
9.4.4. Mentoring Programme for Developing Countries D. Young (US)

9.1. 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
• Mentoring laboratory directors in developing countries

9.1.4. Terms of Reference

The functions of the EMD Executive include:

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

9.2.4. Clinical Molecular Biology Curriculum (C-CMBC)

Membership

<table>
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<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
<tr>
<td>E. Lianidou</td>
<td>Chair</td>
<td>GR</td>
<td>1st</td>
<td>2014 01 - 2016 12</td>
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<tr>
<td>A. Ferreria Gonzalez</td>
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<td>2nd</td>
<td>2014 01 - 2016 12</td>
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<tr>
<td>V. Hasselmann</td>
<td>Member</td>
<td>DE</td>
<td>1st</td>
<td>2014 01 - 2016 12</td>
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<tr>
<td>A. Watamabe</td>
<td>Member</td>
<td>JP</td>
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<td>2014 06 - 2016 12</td>
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</table>

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

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

9.2.5. Analytical Quality (C-AQ)

Membership

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<th>Name</th>
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<tr>
<td>D. Grenache</td>
<td>Member</td>
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<td>2013 08 - 2015 12</td>
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<td>A. Haliassos</td>
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<td>A. Thomas</td>
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<td>G. Velazquez</td>
<td>Member</td>
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</table>

Terms of Reference
• To provide education and training on the various aspects of analytical quality in the clinical laboratory which include:
  • methods and instrument validation
  • traceability concepts
  • measurement uncertainty
  • internal quality control procedures
  • external quality assessment programmes
• To ensure proper control of pre-analytical & post-analytical variables
• To address the educational and training needs of emerging nations on analytical quality
• Education and training will be provided in many ways including:
  • written material
  • electronic teaching
  • workshops and seminars
  • invited lectures
  • consultations
• To collaborate with other IFCC committees or working groups to achieve these aims

9.2.7. Evidence Based Laboratory Medicine (C-EBLM)

Membership

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<td>K. Rodriguez-Capote</td>
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<td>1st</td>
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<tr>
<td>J. Wills</td>
<td>Member</td>
<td>FR</td>
<td>1st</td>
<td>2015 01 - 2017 12</td>
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<tr>
<td>A. Zemlin</td>
<td>Member</td>
<td>ZA</td>
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<td>2015 01 - 2017 12</td>
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Terms of Reference / Mission
To promote the methodology and practice of evidence-based medicine in the laboratory profession.

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

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

9.2.9. Clinical Laboratory Management (C-CLM)

Membership

<table>
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<tr>
<th>Name</th>
<th>Position</th>
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<tr>
<td>S. Yenice</td>
<td>Chair</td>
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<td>1st</td>
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<tr>
<td>R. Erasmus</td>
<td>Member</td>
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<tr>
<td>M. Kuti</td>
<td>Member</td>
<td>NG</td>
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<td>2014 04 - 2016 12</td>
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<tr>
<td>T. Sian Hwa</td>
<td>Member</td>
<td>ID</td>
<td>1st</td>
<td>2014 04 - 2016 12</td>
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<tr>
<td>M. Orth</td>
<td>Member</td>
<td>DE</td>
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<td>2015 03 - 2017 12</td>
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9.2. EMD Committees

EQAP Guidelines
As there is no specific guidance document for quality management of EQAP in medical laboratories, the IFCC analytical quality committee prepared this guidance document based on ILAC G13 http://www.ilac.org/.
Terms of Reference
The committee mandate is to produce monographs and/or handbooks on basic clinical laboratory management and to offer courses, seminars, workshops and expertise to IFCC members. The committee’s focus is on addressing the needs of developing countries and working closely with other EMD committees to raise awareness of quality issue.

Planned Activities
• To produce a further IFCC monograph on Clinical Laboratory Management in collaboration with C-AQ.
• Closely co-operate with the Visiting Lecturer Programme and other EMD committees to effectively and efficiently ensure that the correct management resources are applied to the right place at the right time for a reasonable cost.

9.2.10 Distance Learning (C-DL)
Membership
Name | Position | Country | Term | Time in Office
--- | --- | --- | --- | ---
J. Smith | Chair | UK | 2\textsuperscript{rd} | 2015 01 - 2017 12
R. Greaves | Member | AU | 2\textsuperscript{nd} | 2015 01 - 2017 12
D. Gruson | Member | BE | 2\textsuperscript{nd} | 2015 01 - 2017 12
E. Hoyaranda | Member | ID | 2\textsuperscript{nd} | 2015 01 - 2017 12
L. Langman | Member | US | 1\textsuperscript{st} | 2015 01 - 2017 12

Terms of Reference
• To develop the IFCC curriculum on which the e-Academy will be based, in line with the IFCC strategy for distance learning, in partnership with the Communications and Publications Division Committee on Internet and eLearning (CPD- C-IeL).
• To provide educational material which can be used for on-line learning.
• To solicit suggestions from National Societies, IFCC Committees, Task Forces and Working Groups to identify distance learning topic areas of value to IFCC.
• 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.

9.3. EMD Working Groups
9.3.8. Laboratory Errors and Patient Safety (WG-LEPS)
Membership
Name | Position | Country | Term | Time in Office
--- | --- | --- | --- | ---
L. Sciacovelli | Chair | IT | 1\textsuperscript{st} | 2014 01 – 2016 12
M. Plebani | Past Chair | IT | | 

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
• Focus on addressing errors in laboratory medicine.

• Improving the safety of laboratory testing.
• Improve the knowledge in the field at an international level.
• 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 organisations (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.
• Harmonize the Quality Indicators management in Laboratory Medicine through the use of the same list of Quality Indicators in clinical laboratories all over the world, an 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), stimulate the decreasing of error rates and improve the patient safety in laboratory testing.

9.3.9. Cancer Genomics (WG-CG)
Membership
Name | Position | Country | Term | Time in Office
--- | --- | --- | --- | ---
J. Park | Chair | US | 1\textsuperscript{st} | 2015 01 - 2017 12
P. Fortina | Co-Chair | US | 1\textsuperscript{st} | 2015 01 - 2017 12
P. Ahmad-Nehad* | Member | DE | 1\textsuperscript{st} | 2015 01 - 2017 12
A. Chan | Member | PRC | 1\textsuperscript{st} | 2015 01 - 2017 12
P. Clark | Member | US | 1\textsuperscript{st} | 2015 01 - 2017 12
T. Hyun Hwang | Member | US | 1\textsuperscript{st} | 2015 01 - 2017 12
E. Lianidou | Member | GR | 1\textsuperscript{st} | 2015 01 - 2017 12
E. Londin | Member | US | 1\textsuperscript{st} | 2015 01 - 2017 12
M. Neumaier | Member | DE | 1\textsuperscript{st} | 2015 01 - 2017 12
D. Payne* | Member | US | 1\textsuperscript{st} | 2015 01 - 2017 12
S. Master | Member | US | 1\textsuperscript{st} | 2015 01 - 2017 12

* Liaison Member from the Committee for Molecular Diagnostics (C-MD)

Mission
The WG mission is to survey the currently used and emerging technologies in clinical cancer genomics and to establish a framework to guide clinical laboratories.

Terms of Reference
• Focus on guidelines for clinical laboratories performing cancer diagnosis.
• Standardise clinical laboratory sequencing and bioinformatics quality for cancer genomics.
• Disseminate the knowledge in the field at an international level.
Current Projects

- Survey current standards and guidelines in quality assurance and regulation of clinical genomic laboratories.
- Survey existing guidelines for bioinformatics applied to genomics.
- Assemble comprehensive surveys of (i) technologies and (ii) standards/regulations.
- Create a framework for clinical genomic sequencing and bioinformatic practices that are consistent with current international laboratory standards (e.g., ISO 15189).
- Organising meetings and scientific sessions on the topic of NGS technology and bioinformatics applied to cancer patients.
- Plan for Publication and presentation of the framework to stakeholders.

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

Membership

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<tr>
<td>S. Vasikaran</td>
<td>Chair</td>
<td>AU</td>
<td>1st</td>
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Mission

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

Terms of Reference

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

9.4. EMD Special Projects

9.4.1. Visiting Lecturer Programme (VLP)

Membership

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<tr>
<td>E. Frank</td>
<td>Chair</td>
<td>IN</td>
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<td>2013 01 - 2015 12</td>
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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

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<tr>
<td>U. Sack</td>
<td>Chair</td>
<td>DE</td>
<td>2nd</td>
<td>2014 06 - 2016 12</td>
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Terms of Reference

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

Projects

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

9.4.3. Developing Quality Competence in Medical Laboratories (DQCML)

Membership

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<tr>
<td>M. Thomas</td>
<td>Consultant</td>
<td>UK</td>
<td>EXTRA TERM</td>
<td>2015 01 - 2016 12</td>
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<tr>
<td>J. Smith</td>
<td>Corr. Mem.</td>
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Terms of Reference

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

Projects

Educational modules, transferable to countries and regions requesting assistance in these areas have been developed and pilot projects in Vietnam (in collaboration with the Australian Association for Clinical Biochemistry) and Sri Lanka have previously been supported. Most recently the Project has delivered lectures in Russia, Romania and Uruguay as well as two two-day workshops in Ecuador delivered in Spanish.

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

9.4.4. Mentoring Programme for Developing Countries (MENT)

Membership

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<tr>
<td>D. Young</td>
<td>Consultant</td>
<td>US</td>
<td>1st</td>
<td>2015 01 - 2017 12</td>
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Terms of Reference

This new initiative for the EMD aims to make available to laboratory directors in developing countries the expertise and knowledge of a select group of laboratory
directors from developed countries. A pool of Mentors has been created each of whom will provide one-to-one support to laboratory directors (Associates) from developing countries. Associates are nominated by IFCC Member societies and are matched with the most suitable Mentor. The one-to-one support is provided using electronic communication.

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