EFLM Connects National Societies of Clinical Chemistry and Laboratory Medicine and Creates a Platform for all European "Specialists in Laboratory Medicine"

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THE EFLM BI-MONTHLY NEWSLETTER

Editorial information:
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EFLM Executive Board:

Foreword
by Harjit Pal Bhattoa, Editor EFLM EuroLabNews

In the current issue, Prof. Giuseppe Lippi enlightens us with an outstanding summary on the Opportunities and Challenges of Direct Oral Anticoagulants (DOACs). Dr. Phillip Monaghan (EFLM Test Evaluation Working Group) and Dr. Daniel Rajdl (EFLM Working Group for Distance Education and e-Learning) provide us with an overview of the New Interactive checklist for unmet clinical needs assessment that is also available on the EFLM e-Learning platform. Gilbert Wieringa, Chair of the EFLM Profession Committee gives us a working guide on the EFLM Register. Maria Stella Graziani, Chair of the EFLM Communications Committee, provides an update on the EFLM publications list. The National Societies of Italy and Spain outline their latest professional activities, and the Royal Belgian Society of Laboratory Medicine, Czech Society of Clinical Biochemistry, Icelandic Society of Laboratory Medicine, and Norwegian Society of Medical Biochemistry announce their changing of the guard. The 2nd EFLM Strategic Conference and General Meeting, and the 5th EFLM-UEMS European Joint Congress in Laboratory Medicine are some of the exciting upcoming happenings enlisted in the Calendar of Events.

HOT TOPICS IN LABORATORY MEDICINE

Direct oral anticoagulants (DOACs): opportunities and challenges

by Giuseppe Lippi, MD, Section of Clinical Biochemistry, University of Verona, Verona, Italy

Both arterial and venous thromboses are now considered major healthcare issues, since they represent the leading causes of worldwide and in-hospital mortality, respectively. Prevention and management of these conditions are hence regarded as priorities by all national healthcare systems, in order to decrease the clinical, economic and social impact of these life-threatening and highly disabling disorders.

To be continued on page 2

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The mainstay for preventing, treating and preventing recurrence of thrombosis encompasses targeted inhibition of physiological hemostasis, which can be administered but display a rather predictable inter-individual major advantages of coumarins and LMWHs, in that they can be orally severe and unexpected bleedings in patients taking coumarins can only be efficiently counteracted with replacement therapy (i.e., administration a rather uniform inter-individual pharmacokinetics response, so that frequent laboratory monitoring (by means of prothrombin time/international normalized ratio; PT/INR) will be needed. Moreover, severe and unexpected bleedings in patients taking coumarins can only be efficiently counteracted with replacement therapy (i.e., administration of fresh frozen plasma or coagulation factors concentrates) (1). Both agents have advantages and limitations. Coumarins are more convenient for patients since they can be taken orally. However, their direct activity in inhibiting the synthesis of vitamin K-dependent coagulation factors (factors II, VII, IX, X) is associated with a very narrow therapeutic window, a long-lasting effect and strong interactions with foods and other drugs, so that frequent laboratory monitoring (by means of anti-FXa activity) is only confined to urgent conditions. On the other hand, LMWH therapy is by far less convenient for patients since these drugs can only be administered by subcutaneous injection (1). The many limitations of these historical compounds have led the way, in relatively recent times, to the development of a newer class of antithrombotic agents, whose activity results from direct and targeted inhibition of thrombin (i.e., dabigatran) or FXa (i.e., rivaroxaban, apixaban and edoxaban) (2). These new drugs, which have been originally called “new oral anticoagulants” (NOAs), should now be universally defined by means of assays measuring anti-FXa activity. Moreover, the list of licensed compounds which is expected to grow further, since many other FXa inhibitors (betrixaban, darexaban, omalizumab, etoxaban, eribaxaban) are currently undergoing clinical trials and will soon reach the market.

In a rather predictable scenario, characterized by constantly increasing number of patients taking these drugs and a list of laboratory monitoring. They have hence found widespread indication for managing a vast array of prothrombotic conditions, as shown in Table 1. Yet, the original claims made by manufacturers about no need of patient testing have then been challenged by evidence that these drugs are not as safe as they were supposed. In fact, several lines of evidence now attest that their anticoagulant effect can be impaired (namely amplified) in some pathological conditions (abrupt changes of body weight, kidney and liver failure), whilst laboratory monitoring may also be advisable in urgent conditions such as the onset of unexpected thrombosis under treatment, severe bleeding or the need of urgent surgery. Although the gold standard for measuring DOACs is liquid chromatography coupled with tandem mass-spectrometry (LC-MS/MS), this technique is unavailable in many clinical laboratories and, especially, is inexpensive and unsuitable for urgent testing. On the other hand, the response of first-line clotting tests such as PT/INR and/or activated partial thromboplastin time (APTT) to the anticoagulant activity of DOACs is unsatisfactory, especially for apixaban and edoxaban. Therefore, the most accurate strategy for urgently assessing the anticoagulant activity of DOACs encompasses performing anti-FXa assays, calibrated against each specific drug (3). This approach, which should hence be implemented by reference hemostasis laboratories or by the so-called “hub” facilities operating within a network of neighboring laboratories, is expected to generate considerable organizational and economic impacts, since each drug should be tested in the laboratory by means of its relative anti-FXa calibrated assay. Moreover, the list of DOACs is predicted to increase further, since many other FXa inhibitors (betrixaban, darexaban, omalizumab, etaxaban, eribaxaban) are currently undergoing clinical trials and will soon reach the market.

In a rather predictable scenario, characterized by constantly increasing number of patients taking these drugs and a list of licensed compounds which is expected to grow further, laboratory medicine services should hence be proactive to face the emerging challenge of routine and urgent measurement of these drugs.

### References


### Table 1.

Current therapeutic indications of direct oral anticoagulants (DOACs) as approved by the European Medicines Agency (EMA) for most European countries

<table>
<thead>
<tr>
<th>Drug</th>
<th>ACS</th>
<th>AF</th>
<th>VTE prevention</th>
<th>VTE treatment</th>
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<td>Dabigatran</td>
<td>X</td>
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<td>Edoxaban</td>
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ACS, acute coronary syndrome; AF, atrial fibrillation (non valvular); VTE, venous thromboembolism
Do not miss the opportunity to be part of the 2nd EFLM Strategic Conference that is aimed to focus the attention of our professional community to the challenges of the digital era!

Click here to download the leaflet

The conference will consider the impact that the on-going digitalization of technologies and a digitalized society will have on the medical laboratory in future health care.

We contend that such changes enable Digital Health that will be disruptive for Laboratory Medicine as we know it, because they will change our capabilities to compile, integrate and visualize complex diagnostic data as well as providing the opportunity for radical changes to diagnostic health strategies.

In this rapidly changing health care environment, Laboratory Medicine must redefine its positions, not only acting in its classical role as provider of laboratory results, but also adopting new roles and responsibilities in the clinical dialogue.

The five sessions of the 2018 Conference will take you through the following themes, with the help of laboratory professionals, stakeholders, clinicians and patients:

- Disruptive technologies in laboratory analytics
- Disruption through biomedical informatics technologies
- Integrating laboratory and clinical data – a game for the lab?
- Interpretation and communication of test results: the stakeholder’s perspectives
- Patient empowerment and the laboratory

Register now to secure your place! Be prepared to the challenges of the digital era!

and at the end of the Conference...

the participation is reserved to EFLM National Representatives and National Society Presidents
The EFLM Register is unique in identifying medical, scientific and pharmacy trained registrants able to meet an Equivalence of Standards in scope of specialist practice in laboratory medicine across Europe. Through the standards it sets and the code of conduct it expects from its registrants, the Register has identified a cohort of nearly 3000 individuals with unique knowledge, skills and competencies for leading/delivering high quality laboratory medicine services. Its value to our profession and the individual is extensive:

- Holders of the title Specialist in Laboratory Medicine are widely recognised as individuals with a high level of knowledge, skills and competence. As a charter mark of professional status it supports individuals in many countries.
- As an arbiter of high standards it supports equivalent, high quality education and training across Europe and in turn the safety of patients accessing laboratory medicine services.
- Achieving recognition extends opportunities for specialists to practice in other EU countries without having ‘compensation measures’ imposed e.g. re-taking of local professional examinations.
- Achieving recognition raises the profile of the contribution of laboratory medicine to better health and best care and, in particular, the role and contribution of its specialist practitioners.
- The register provides a template for a Europe-wide registration framework.

For these reasons, growing the Register is a key strategic imperative for EFLM.

How to join the Register
(https://www.eflm.eu/site/page/a/1302)

a. Submission of Equivalence of Standards:
Joining the Register requires national societies to firstly submit evidence that the education and training of their Specialists in Laboratory Medicine meets an Equivalence of Standards with colleagues across Europe. This provides the measure against which all applications are assessed. The Equivalence proforma may be downloaded from the EFLM web site, guidance on its submission may be sought from the EFLM Registrar (registrar@eflm.eu).

The Equivalence of Standards criteria are as follows:

- Minimum 9 years (ideally 10) years academic (4/5 years) and specialist (5 years) training;
- Education and training to expectations set in the EFLM syllabus 2
- A Master’s degree in Medicine, Pharmacy or Science;

New Interactive checklist for unmet clinical needs assessment

The introduction of new biomarkers can lead to inappropriate utilisation of tests if they do not fill in existing gaps in clinical care.

The unmet clinical need checklist produced by the EFLM Test Evaluation Working Group (WG-TE) is a practical tool, with worked examples, to assist researchers, laboratory professionals and the In Vitro Diagnostic (IVD) industry working with clinicians, to identify unmet clinical needs and improve the targeted development of IVD medical tests for improved health outcomes. The tool is aligned with the Institute of Medicine (IOM) recommendations and the US Food and Drug Administration (FDA) and Conformité Européenne (CE) regulatory framework requirements. The checklist intends to achieve more efficient biomarker development and translation into practice.

In collaboration with the EFLM Working Group for Distance Education and e-Learning (WG-DE), we have developed an interactive version of this checklist, available on the EFLM e-Learning platform: https://elearning.eflm.eu/course/view.php?id=11. The platform also contains a short video showing how to use the interactive checklist.

We would like to encourage pilot testing and regular use of this new interactive checklist. The checklist can be used before new biomarkers are developed or fully validated for clinical use as well as when assessing the clinical need for, and the clinical utility of, existing biomarkers. The TE-WG would highly appreciate feedback to inform future refinements of the checklist based on user experience.

What is the EFLM Register, how can I join it?

by Gilbert Wieringa, Chair of the EFLM Profession Committee

The EFLM Register is unique in identifying medical, scientific and pharmacy trained registrants able to meet an Equivalence of Standards in scope of specialist practice in laboratory medicine across Europe. Through the standards it sets and the code of conduct it expects from its registrants, the Register has identified a cohort of nearly 3000 individuals with unique knowledge, skills and competencies for leading/delivering high quality laboratory medicine services. Its value to our profession and the individual is extensive:
- An EFLM Profession Committee recognised ‘Equivalence of Standards’ exit qualification;
- Evidence of participation in continuous professional development (CPD).

It requires curriculum content to include:

- General chemistry of at least 35%;
- General chemistry plus haematology of at least 65%;
- Flexibility as to the remaining 35%, including general chemistry, haematology, microbiology, and genetics and IVF in a proportion consistent with the requirements in the country of destination.

b. Inviting applications to join the Register:

1. Individual applications may be made via the EFLM web site (https://www.eflm.eu/site/page/a/1302). They require submission of a CV that demonstrates length and breadth of training, a copy of examination certificates and qualifications, and evidence of participation in Continuous Professional Development. Applications are assessed by members of EFLM’s Profession Committee’s Working Group: Register who forward recommendations for ratification by the EFLM Registrar. Applications can only be assessed by an assessor from a national society different to the applicant.

2. The preferred means is via national society auto-registration of those members able to meet previously approved Equivalence of Standards. This allows rapid and minimal administrative burden for all stakeholders. The process can be enabled by the submission of electronic spread sheets that identify individuals able to meet the standards. Further information about auto-registration may be obtained from the EFLM Registrar. Regular audit helps ensure the Register only captures bona fide registrants.

c. Renewing registration

To renew registration confirmation is requested of the following on the EFLM web site (https://www.eflm.eu/site/page/a/1303):

- **Continued practice as a Specialist in Laboratory Medicine**: assurance may be sought of continued practice.
- **Adherence to the code of conduct**: re-registrants should inform the Registrar if they are no longer able to meet the code of conduct.
- **Engagement in Continuous Professional Development (CPD)**: assurance of continued participation in CPD is sought. Where there is participation in a recognized CPD scheme, the scheme organiser’s evidence of participation should be uploaded.

References:

chemistry and coagulation analyzers), are now equipped with this analytical feature. However, an important lack of harmonization is observed in this practice (the measurement procedure, the reporting of interference data, the definition of thresholds of interference). This document aims to discuss these important caveats and propose some reliable solutions. The manufactures are encouraged in modifying the type and the quality of information about the serum indices to the users: this will increase the quality and the safety of the diagnostic testing.

Harmonization initiatives in the generation, reporting and application of biological variation data.


The paper reports about the EFLM WG on Biological Variation (BV) initiative to deliver a more harmonized practice in the generation, reporting and application of BV data. This is made possible through application of the Biological Variation Data Critical Appraisal Checklist (BIVAC), published in 2017. Other initiatives include the publication of a Medical Subject Heading term for BV and recommendations for common terminology for reporting of BV data and the publication of the Biological Variation Database at the EFLM website. The availability of these high-quality data, which have many applications that impact on the quality and interpretation of clinical laboratory results, will help us in improving patient care.

Blood Glucose Determination: Effect of Tube Additives


This is another contribution of the EFLM WG-PRE towards the harmonization of the pre-analytical phase. The paper reports the results of a systematic review of the literature about the best additive to use in order to avoid in vitro glycolysis thus preventing the decrease of glucose concentration in the tubes. The evidence-based information is that citrate buffer is superior to the traditional additives in inhibiting in vitro glycolysis and allowing more reliable and accurate glucose measurement. Further clinical evidence is required to assure that the currently used cut-offs, derived from a different sample matrix, can be applied to these new tubes, with no risk of overdiagnosing diabetes.

Within-subject and between-subject biological variation estimates of 21 hematological parameters in 30 healthy subjects


The study aim was to define the Biological Variation (BV) data of the complete blood count parameters employing a strict pre-analytical protocol and appropriate statistical technique. The study provides updated and more stringent statistical technique. Because individuality is characteristic of hematological parameters, sex stratification of data is necessary when exploring the significance of changes in consecutive results and when setting analytical performance specifications. Reading the paper is very useful to obtain the new BV data.
Recommendations for management of critical values: Consensus document issued by the Italian Society of Clinical Biochemistry and Clinical Molecular Biology (SIBioC - WG on the Extra-Analytical Phases of the testing process)

by Giuseppe Lippi, National Representative of Italian Society of Clinical Biochemistry and Clinical Molecular Biology (SIBioC)

Critical values are currently defined by the Joint Commission (JC) as “test results significantly laying outside the normal range and potentially representing life-threatening values”. Irrespective of the fact that this definition has also been endorsed (with minor amendments) by the Clinical and Laboratory Standards Institute (CLSI) and by the Royal College of Pathologists (RCP) (1), there is still debate on how this straightforward concept can be efficiently translated into routine laboratory practice. With the aim of providing agreed and standardized recommendations, the WG on the Extra-Analytical Phases of the testing process of the Italian Society of Clinical Biochemistry and Clinical Molecular Biology (SIBioC) has recently published a set of consensus recommendations to be advisabley implemented across national clinical laboratories. The document, published in the official journal of SIBioC “Biochimica Clinica” (2), provides a critical review and the state of the art in identification and management of critical values; it is then focused on some practical, consensus-based recommendations, which should assist laboratory professionals to adopt a standardized and liable approach to reasonably managing critical values.

The document has been already included in the EFLM repository of Guidelines issued by National Societies (https://www.eflm.eu/site/page/a/1330); the English abstract of the document is freely available at that page.

References


In its new Strategic Plan (2018-2020) the SEQCML proposes technological innovation and quality in the laboratory as keys to improving clinical decisions

• The SEQCML Strategic Plan 2018-2020 seeks to improve the visibility of Laboratory Medicine
• The Society will enhance the scientific quality of its publications, with the goal of having its Journal indexed
• Free membership fees for new members will be introduced during their period of medical residency to encourage generational change

Madrid, 15 of March 2018 - The Spanish Society of Laboratory Medicine (SEQCML) has prepared a new Strategic Plan for the next three years with which it seeks to give visibility to Laboratory Medicine and place it at the center of clinical activity. To this end, SEQCML is committed to quality in scientific production and technological innovation to strengthen the advisory role of laboratory professionals and contribute to improving clinical decisions.

"70% of clinical decisions are based on diagnostic tests," says Dr. Imma Caballé, president of the SEQCML, who argues that "it is time to recognize the value" of those who are behind these tests. "We are knowledge managers and expert clinical consultants and we must assume a position of shared leadership", maintains the president.

The Strategic Plan 2018-2020 of the SEQCML proposes a series of measures, divided into several strategic areas, among which the following stand out: promoting the value of the clinical laboratory for more efficient management of the National Health System (NHS), promoting excellence in scientific-technical activities, improving the perception by its members of Society activities, making the SEQCML visible in society in general, and promoting generational change.
Quality and Innovation

To strengthen the value of Laboratory Medicine, the Strategic Plan focuses on quality and innovation. "The best way to improve our scientific standards is to open ourselves to the clinical aspects of the specialty, participating in congresses of other specialties, and collaborating with international societies of Laboratory Medicine, such as The International Federation of Clinical Chemistry and Laboratory Medicine (IFCC), The European Federation of Clinical Chemistry and Laboratory Medicine (ELFM) and The International Council for Standardization in Haematology (ICSH)," explains Dr. Caballe. In this sense, one aim is to strengthen the Clinical Laboratory Journal’s role in dissemination, as it includes original articles as well as reviews and clinical guides produced by the Society. The goal of this initiative is for the journal to be indexed; that is, included in the Integrated Classification of Scientific Journals.

Another axis of the new Strategic Plan is to reinforce the prominence of its members. In the words of Dr. Francisco Antonio Bernabeu, vice president of the SEQCML, the aim is to "open up new options for improving their scientific-technical training" and also the perception that this would have of the excellence of Society’s activities. Direct communication with members will also be strengthened, with publications every two weeks on the website and a biennial survey.

In addition, as an innovative element, the Strategic Plan emphasizes the importance of giving the SEQCML visibility in society in general. To this end, a series of actions are proposed that will begin with an update of the Society’s website and larger participation in social networks. In addition, the SEQCML will be provided with "unambiguous signs of identity" via a series of documents, such as a Style Manual, Partner’s Manual, and training guides.

In this line, Dr. Bernabeu highlights the importance of "making the SEQCML known", promoting its participation both with institutional bodies - the Ministry of Health and Education, Federación de Asociaciones Científico Médicas Españolas (FACME), Federación Española de Empresas de Tecnología Sanitaria (FENIN), etc. - and with other medical societies. At the international level, in addition to contacts with the IFCC, ELFM and ICSH, "we will strengthen contacts already initiated with Latin American societies and professionals", proposes Dr. Bernabeu.

Finally, the Strategic Plan focuses on the idea of generational change, for which it also foresees a series of initiatives. "This Plan is the spearhead of an innovative impulse coming from the Society itself and must be supported by generational change", explains the vice president. Therefore - in addition to all the benefits that members have, such as scholarships, advice, or job postings - the Plan will introduce free membership fees during the member’s training period.

"The SEQCML will use this free access as a means to encourage the training of residents. We must ensure that there is a balance between the know-how provided by senior members and the freshness provided by the new additions to the Society. Everything that favors these new additions will be welcome," he concludes.

The SEQCML

The Spanish Society of Laboratory Medicine (SEQCML) - founded in 1976 - currently includes more than 2,500 professionals, and its main objective is to bring together all scientists interested in the Clinical Laboratory field, to promote the dissemination of scientific and technical publications, to organize meetings, courses and congresses of national and international nature, and to cooperate with other Scientific Societies. Likewise, the Society wishes to contribute to the study and recommendation of standardized methods and the establishment of guidelines and recommendations for training in the field of Laboratory Medicine.

For more information: www.seqc.es

SEQCML at the National Congress

MEMBER OF:
Changing of the Guard in EFLM National Societies

Royal Belgian Society of Laboratory Medicine (RBSLM)
Prof. Etienne Cavalier (Dept of Clinical Chemistry, CHU of Liège) is the new President of the Royal Belgian Society of Laboratory Medicine replacing Prof. Pieter Vermeersch. A warm welcome to Prof. Cavalier and a thank you to the outgoing President, Prof. Vermeersch, for his always prompt support to EFLM activities.

Czech Society of Clinical Biochemistry (CSCB)
Dr. Richard Pikner (Dept. of Clinical Laboratories and Bone Metabolism, Klatovska Nemocnice, Klatovy) is the new EFLM National Representative for the Czech Society of Clinical Biochemistry replacing Prof. Richard Prusa. A warm welcome to Dr. Pikner and a thank you to the outgoing National Representative, Prof. Prusa, for his always prompt support to EFLM activities.

Icelandic Society of Laboratory Medicine (KLLI)
Dr. Ólöf Sigurðardóttir (Dept of Clinical Biochemistry, Landspitali-University Hospital, Reykjavik) is the new President of the Icelandic Society of Laboratory Medicine replacing Prof. Isleifur Olafsson, while Prof. Leifur Franzson (Dept of Clinical Biochemistry, Landspitali-University Hospital, Reykjavik) is new EFLM National Representative replacing Dr. Ingunn Thorsteinsdottir. A warm welcome to incoming officers and a thank you to the outgoing ones.

Norwegian Society of Medical Biochemistry (NSMB)
Dr. Maria Averina (University Hospital of North Norway, Tromsø) is the new President of the Norwegian Society of Medical Biochemistry replacing Dr. Lutz Schwettmann. A warm welcome to Dr. Averina and a big "grazie" to the outgoing President, Dr. Schwettmann, for his always prompt support to EFLM activities.

Calendar of EFLM events and events under EFLM auspices

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<td>5-8 June 2018</td>
<td>Belgrade, Serbia</td>
<td><a href="mailto:sanjast2013@gmail.com">sanjast2013@gmail.com</a></td>
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<td>Focus 2018 – Annual Meeting of the ACB</td>
<td>6-8 June 2018</td>
<td>Manchester, UK</td>
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<td>2nd EFLM Strategic Conference</td>
<td>18-19 June 2018</td>
<td>Mannheim, Germany</td>
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<td>1st IFCC, EFLM, AFCB Conference Laboratory Medicine: Meeting the needs of Mediterranean Nations</td>
<td>2 July 2018</td>
<td>Rome, Italy</td>
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<td>Catheter collection EFLM webinar</td>
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30 September - 3 October 2018
9th Santorini Conference "Systems Medicine and Personalised Health & Therapy - The Odyssey from Hope to Practice"
Santorini, Greece  www.santoriniconference.org

27 November 2018
Preanalytical mysteries
EFLM webinar
on-line  https://elearning.eflm.eu

3-5 October 2018
26th Meeting of Balkan Clinical Laboratory Federation and the 6th National Congress of the Macedonian Society for Medical Biochemistry and Laboratory Medicine
Skopje, Macedonia  http://www.bclf.info/index.htm

29 November 2018
12th International Scientific CIRME Meeting "Standardization in Laboratory Medicine and Patient Safety"
Milan (IT)  http://users.unimi.it/cirme/home/

4-6 October 2018
9th Russian Conference on Clinical Hemostasiology and Hemorheology
St Petersburg, Russia  http://coith2018.com/en/main

7-8 December 2018
JBP 2018 - Journées de Biologie Praticienne
Paris (FR)  mf.gaudeau.toussaint@gmail.com

10-13 October 2018
5th EFLM-UEMS Joint Congress
Laboratory Medicine at the clinical interface
Antalya, Turkey  http://eflm-uems-antalya2018.org/

22-23 March 2019
5th EFLM European Conference on Preanalytical Phase – supported by BD
Zagabria, Croatia  http://www.preanalytical-phase.org/

16-17 October 2018
2èmes Journées Francophones de Biologie Médicale

19-23 May 2019
EuroMedLab 2019
23rd IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine
Barcelona, Spain  http://www.euromedlab2019barcelona.org

18-19 October 2018
EQALM Symposium 2018
Zagreb, Croatia  www.eqalm.org

9-12 June 2020
XXXVII Nordic Congress in Medical Biochemistry
Trondheim, Norway  www.nfkk2020.no (soon available)

30 October 2018
International Conference on Laboratory Medicine “Laboratory Medicine: 25 years on”
Padova (IT)  http://www.lccongressi.it/laboratorymedicine2018/

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EuroLabNews is the digital bi-monthly newsletter of EFLM targeting more than 4,500 laboratory medicine professionals and is also published on the EFLM website. The Newsletter features information on EFLM initiatives and activities of its functional units, news from EFLM National Society members and includes a calendar of the major events in the Clinical Chemistry and Laboratory Medicine field.

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