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2024

EuroLab News

THE EFLM BI-MONTHLY NEWSLETTER



www.eflm.eu

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Foreword

This Summer issue of the EFLM EuroLabNews commences with the news from Tomris Ozben, Chair of the EFLM Task Force Green & Sustainable Laboratories, where she reiterates the 4 simple actions to be more sustainable and green in your laboratory.

The EFLM certificate as Green and Sustainable laboratory has been awarded to 7 European Laboratories. Daria Pasalic, Chair of the Education and Training Committee, reports on the Venous Blood Sampling Course. Marielle Kaplan and Zsuzsa Bagoly, EFLM Working group on Congresses and Postgraduate Education (WG-CPE), present their report on Meet the Experts: How to interpret laboratory results. Under its flagship, two sessions were recently presented, and another two are scheduled for the near future. Silvia Terragni, from the EFLM Office, announces the change of guard at the Association of Clinical Biochemists in Ireland. Under news from National Societies, the Spanish Society presents their latest events. Under updates on EFLM Publications, Silvia Terragni, EFLM Office, announces 6 must-read scientific publications. Aleksei Tikhonov, SFBC Member, reports on a series of EFLM webinars conducted in the previous few months that focus on the advancement of laboratory medicine and he also gives us an appetizer on the future upcoming not-to-be missed webinars. The IFCC corner showcases the global scene in laboratory medicine. Mark your calendar for a variety of upcoming EFLM events and conferences, among others, also the 4th EFLM Strategic Conference 2024 in Padova, Italy.



Reported by **Harjit Pal Bhattoa**,
Editor EFLM EuroLabNews

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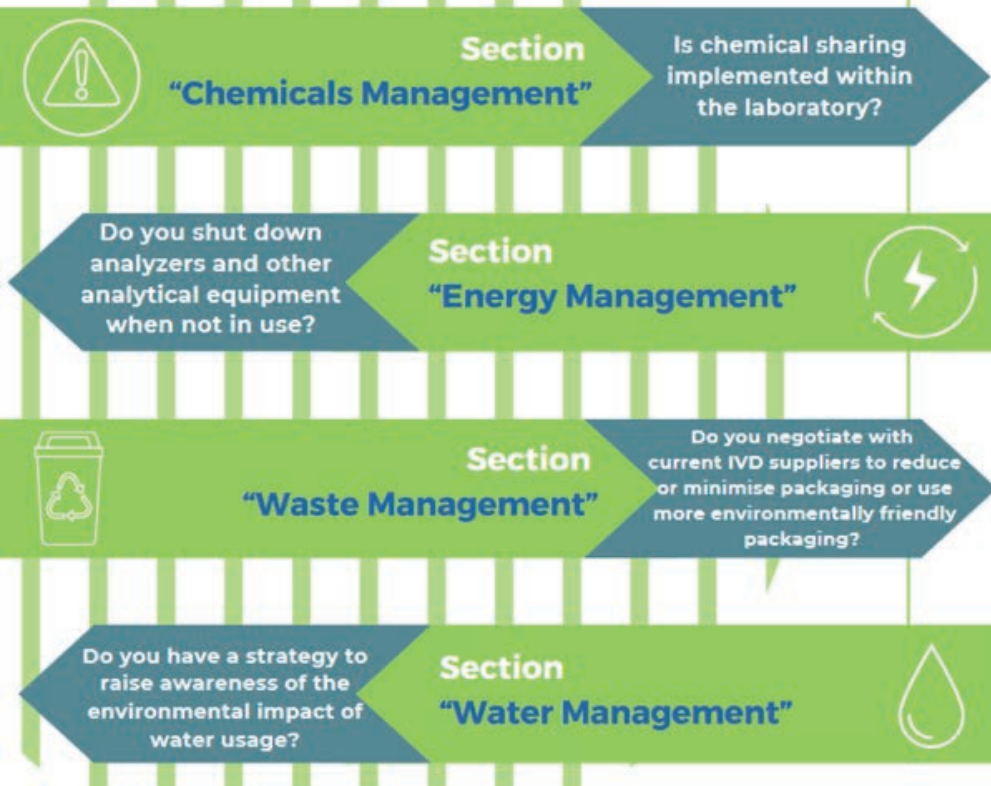
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FOUR SIMPLE ACTIONS TO BE MORE SUSTAINABLE AND GREEN IN YOUR LABORATORY!



NEWS FROM EFLM FUNCTIONAL UNITS

Four simple actions to be more sustainable and green in your laboratory!

Reported by **Tomris Ozben**,
Chair of the EFLM Task Force
"Green & Sustainable Laboratories"

In line with the goal of the **EFLM Task Force "Green & Sustainable Laboratories"**, I have the pleasure to continue the column started in the previous issues of our newsletter: [Four simple actions to be more sustainable and green in your laboratory!](#)

In each issue of the newsletter, we will select 4 actions from each section of the checklist prepared by the EFLM TF-GSL members (Chemicals, Energy, Waste and Water) to start implementing the daily routine in your laboratories and getting familiar with the checklist.

The below actions are accompanied by a graphical leaflet that you can download and post in the notice board of your laboratory to be shared with your colleagues (in this case, please remember to use recycled paper).

The selected actions of this issue are:

- Section "Hazardous Chemicals Management"**
ACTION: Is chemical sharing implemented within the laboratory?
- Section "Energy Management"**
ACTION: Do you shut down analyzers and other analytical equipment when not in use?
- Section "Waste Management"**
ACTION: Do you negotiate with current IVD suppliers to reduce/minimise packaging or use more environmentally friendly packaging?
- Section "Water Management"**
ACTION: Do you have a strategy to raise awareness of the environmental impact of water usage?

[Click here to download the PDF](#)

NEWS FROM EFLM FUNCTIONAL UNITS

Already 7 laboratories got the EFLM certificate as Green and Sustainable Laboratory



BELGIUM

Department of Laboratory Medicine, Europe Hospital | Cliniques de l'Europe - Europa Ziekenhuizen
Avenue De Fré, 206 - Brussel (1180) Belgium
Certificate issued on 2023-08-24 and valid till 2025-08-24

Uz Leuven Laboratory Medicine | Uz Leuven

Herestraat 49 - Leuven (3000) Belgium
Certificate issued on 2024-01-08 and valid till 2026-01-08



FINLAND

Mehiläinen Töölö Central Laboratory | Mehiläinen Oy
Pohjoinen Hesperiankatu 17 C - Helsinki (00260) FINLAND
Certificate issued on 2024-05-14 and valid till 2026-05-14



FRANCE

Synlab Charentes

Avenue Jourdan - Saintes (17100) France
Certificate issued on 2023-10-09 and valid till 2025-10-09



ROMANIA

Labrom | S.C. Labrom S.R.L.
Liliacului No.4 - Bacau (607235) Romania
Certificate issued on 2023-07-24 and valid till 2025-07-24



SWITZERLAND

Labor Team

Blumeneggstrasse 55 - Goldach SG (9403) SWITZERLAND
Certificate issued on 2023-11-27 and valid till 2025-11-27



TÜRKIYE

Tıbbi Biyokimya Laboratuvarı | SBÜ Antalya Eğitim ve Araştırma Hastanesi

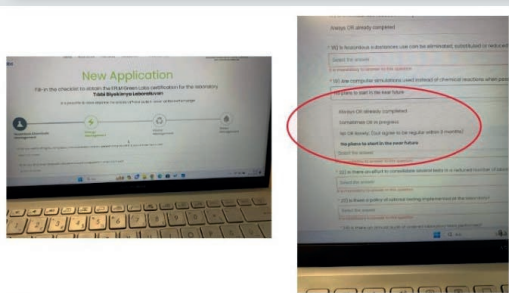
Varlık Mahallesi, Kazım Karabekir Caddesi
Antalya (07050) Türkiye
Certificate issued on 2023-12-22 and valid till 2025-12-22

The first meeting was held on December 6, 2023. On the same day, a WhatsApp group was created and task distribution was planned. Meeting decisions were recorded, and a secretary was appointed for this purpose. Since entry to the system for certification application requires a photo, plenty of photos were taken throughout the process. There are more than 500 photos in this whatsapp group.



Look at the interesting roadmap of the Tıbbi Biyokimya Laboratuvarı of Antalya describing the journey of the laboratory towards the obtaining of the EFLM Green Laboratory Certification.

[Click here](#)



We thank the sponsors of this important EFLM activity for the kind and unconditional financial support

Gold Sponsors



Silver Sponsors



Interactive educational course

RECOMMENDATION FOR VENOUS BLOOD SAMPLING

EFLM
EUROPEAN FEDERATION OF CLINICAL CHEMISTRY
AND LABORATORY MEDICINE



Based on the joint EFLM-COLABIOCLI
Recommendations for Venous Blood Sampling (2018 - version 1.1)
developed by the EFLM WG-Preanalytical Phase (WG-PRE)

This course was developed thanks to the cooperation between EFLM Committee on Training and Education, the EFLM WG-PRE, the Association of Clinical Chemistry & Laboratory Medicine of Ukraine and the Danylo Halytsky Lviv National Medical University (Ukraine)

Course "Venous Blood Sampling"

Reported by **Daria Pasalic** (Croatia),
Chair of the Education and Training Committee

C-ET is proud to announce a new approach to education for EFLM members, their collaborators and beyond. Therefore, we recently added a link to interactive educational content in the e-learning platform.

The first interactive course was developed thanks to the cooperation between EFLM Committee on Training and Education, the EFLM WG-PRE, the Association of Clinical Chemistry & Laboratory Medicine of Ukraine and the Danylo Halytsky Lviv National Medical University (Ukraine).

Hanna Maksymyuk from the Ukrainian Society created the interactive educational module RECOMMENDATION FOR VENOUS BLOOD SAMPLING based on the EFLM-COLABIOCLI Recommendations for Venous Blood Sampling (2018). Members of the EFLM WG-Preanalytical Phase (WG-PRE) were responsible for the course's extensive supervision and peer review.

In short, "The goal of this freely available e-learning course is to address the theoretical aspects of venous blood collection in a novel and interesting manner; the interactive style allows for quick comprehension of the educational material. Throughout the course, participants will actively participate in realistic work situations, allowing them to make judgments in a variety of scenarios. In addition, quizzes and games direct the participant's attention, improving their understanding of the subjects."

Therefore, we respectfully ask you please visit the EFLM e-learning platform, or you can access it for free straight from the EFL website:

https://www.eflm-elearning.eu/site/documents/Leaflet_Course_venuous-blood-sampling.pdf

This free training is available to all of your colleges, MDs, residents, EuSPLM, nurses, laboratory techs, and even patients. As a result, we kindly ask that you inform your colleges and visit the EFLM website about this and all future interactive content available on the e-learning platform. We hope you will find it useful and instructive.

Course level: Beginner

Language: English

Accessibility: FREE ACCESS

An unusual and interesting way to involve phlebotomists in theoretical training thanks to this very easily accessible course with simulated work situation



AIM OF THE COURSE

This course aims to minimize the number of rejected samples.

COURSE FORMAT

An interactive based training scenario with simulations of work situations. Intermediate and final learning testing for self assessment of the acquired knowledge.



WHOM THIS COURSE IS ADDRESSED TO



Phlebotomists, laboratory workers, clinicians heads of medical institutions, professionals in the field of medicine, who strive to work according to the standards of the world community aiming to improve the professional level of the medical staff and patient satisfaction

MEET THE EXPERTS

How to interpret laboratory results

Reported by **Marielle Kaplan** (Israel),
Zsuzsa Bagoly (Hungary),
EFLM Working group on Congresses and
Postgraduate Education (WG-CPE)



On behalf of the EFLM WG-CPE we would like to share with you the introduction in 2024 of a new activity: An EFLM course called: **Meet the experts: How to interpret laboratory results**. The aim of this course is to allow for discussion on specific topics that require expertise in the interpretation of laboratory tests results.

The present course integrate expert and laboratory scientists in live meetings on specific subjects that require expertise on the interpretation of obtained results of laboratory tests. The idea behind this initiative is to step out of the textbook to the reality and deal with grey-zone results. In order to address different groups of laboratory field, each session focus on a specific topic. Each meeting includes a theoretical lecture for the background but most of the meeting is dedicated to discussion of real cases and scenarios that are sent by participants before the meeting, based on their own practice. The relevant expert is discussing the clinical scenarios relevant to the subject of the meeting. This is followed by an interactive Q&A session led by the moderator and finally participants are checking their knowledge by participating to a quiz at the end of the meeting.

Two sessions have already taken place:



Prof. Katrien Devreese (Belgium)

ANALYSIS AND INTERPRETATION OF TESTS FOR ANTIPHOSPHOLIPID SYNDROME on the 15/02/24. The EXPERT was Prof. Katrien Devreese (Belgium) from the Dept of Laboratory Medicine, Ghent University, Ghent, and the moderator was Dr. Zsuzsa Bagoly (Hungary). The meeting included discussion on issues related to the testing methods for lupus anticoagulants, anticardiolipin antibodies, and anti-beta2 glycoprotein antibodies. The ten cases presented during the meeting highlighted issues on the challenges in antiphospholipid antibody testing, interpretation of the results and the use of relevant algorithms. Up to 95 participants attended this meeting.



Prof. Damien Gruson (Belgium)

ANALYSIS & INTERPRETATION OF CARDIAC MARKERS AND DECIPHERING OF HIGH SENSITIVE TROPONIN on the 9/05/24. The EXPERT was Prof. Damien Gruson (Belgium) from the Dept of Clin Biochemistry, Cliniques Univ Saint Luc, Bruxelles and the Moderator was Dr. Marielle Kaplan (Israel). The meeting focused on the use of high sensitive troponin for MI diagnosis using the relevant algorithms and protocols for results interpretation. Four cases were discussed during the meeting raising issues on the use of POCT for troponin testing, interferences in troponin testing, differences between Troponin I and T and Troponin levels in CKD patients. Up to 65 participants attended this meeting. A very positive interest for this type of education events was received from several participants, and we will introduce this format next year (2025), as well in additional fields of Laboratory Medicine.

MEET THE EXPERTS

How to interpret laboratory results

Reported by **Marielle Kaplan** (Israel),
Zsuzsa Bagoly (Hungary),
EFLM Working group on Congresses and
Postgraduate Education (WG-CPE)



Meanwhile two additional meetings are planned for 2024:

INTERPRETATION OF LABORATORY RESULTS ON KIDNEY FUNCTION

EXPERT: Prof. Etienne Cavalier (Belgium), Dept Clinical Chemistry, University of Liege, **5/09/24**.

M-PROTEIN DIAGNOSTICS: ANALYSIS AND INTERPRETATION OF PROTEIN ELECTROPHORESIS OF SERUM, URINE, AND CEREBROSPINAL FLUID

EXPERT: Prof. Hans Jacobs (The Netherlands) Dept Laboratory Medicine, Radboud University Nijmegen, **7/11/24**.

This is a free EFLM educational activity reserved to EFLM Academy Members

[Click here to register](#)



The WG - Congresses and Postgraduate Education (WG-CPE). From left to right: Giuliana Cangemi (WG-CPE Full member), Marielle Kaplan (WG-CPE Full member), Radomir Hypler (WG-CPE Corresponding member), Daria Pasalic (Chair of committee on Education and Training), Eser Y. Sozmen (Chair of the WG-CPE), Guillaume Grzych (WG-CPE Full member, Young Scientist), Petros Karkalousos (Chair of WG- Distance education and e-learning), Zsuzsa Bagoly (WG-CPE Full member)



EFLMLABX CORNER

Welcome to the new EFLMLabX offerer from France

Reported by **Tara Rolić**,
Task Group EFLMLabX member

Sincere welcome to the new EFLM partner in laboratory professionals exchange programme (EFLMLabX) from Lille, France

Description of the Internship Opportunity **Biochemistry, Nutrition, and Metabolism Service**

Laboratory at Lille University Hospital, France

The Biochemistry, Nutrition, and Metabolism Service at Lille University Hospital is a leading research and diagnostic center specializing in the analysis and monitoring of nutritional and metabolic disorders. Our laboratory, situated in a renowned medical institution known for its excellence, is dedicated to providing innovative and rigorous solutions to emerging challenges in medical biology.



Mission and Objectives

We have a particularly focus on the diagnosis and monitoring of nitrous oxide intoxication, a rapidly growing public health issue in Europe. This gas, commonly used as an anesthetic and recreational substance, poses significant health risks, including neurological and metabolic disorders. Our mission is to develop and optimize precise and reliable detection methods to improve patient care for those intoxicated.

Internship Opportunities

We offer internship opportunities for European students in biology, biochemistry, or related fields who wish to gain practical experience in a dynamic clinical and research environment. Interns will have the chance to actively participate in research projects, work with cutting-edge technologies, and contribute to important clinical studies. Under the supervision of our experienced team of researchers and clinicians, you will develop essential technical and analytical skills for a career in medical biology.

What We Are Looking For

We are looking for motivated students with a strong academic background in biological sciences and a particular interest in nutrition, metabolism, and toxicology. Candidates should demonstrate scientific rigor, teamwork skills, and the ability to adapt to a demanding work environment.



Why Join Us?

- **High-Quality Research Environment:** Work in a modern, well-equipped laboratory within a multidisciplinary team of healthcare professionals.
- **Innovative Projects:** Contribute to cutting-edge research on current topics in medical biology.
- **Professional Development:** Gain valuable hands-on experience, specialized training, and the opportunity to publish your work.
- **Societal Impact:** Participate in projects with a direct impact on public health and patient well-being.

To apply, please connect to EFLMLabX platform:

<https://efmlabx.eflm.eu/en>

Join us to take on this new challenge in medical biology and contribute to improving the diagnosis and treatment of nitrous oxide intoxications.

Quick Tips to get the best from your EFLM Academy Membership

1



EFLM Academy &
EuSpLM Register

Access the platform

Visit your profile!
Keep updated your email and
your National Society Membership

2

Download your Certificate

This is one of the document that you need to submit
when applying for EFLM Opportunities such as
Bursaries, Grants...

3

Join the EuSpLM Register:

the European Register of Specialists of Laboratory Medicine

[Click here to know more about this opportunity.](#)

Block-enrolled Members can obtain or renew the
EuSpLM Certificate via their National Society only
during the block enrolled renewal period from
November 7 to December 10.

4

E-Learning

Enjoy the selection of interactive, web-based,
educational resources designed by EFLM experts
to improve your daily practice

5

**Free access to the contents of
CLSI documents*, International Journals, e-book**

*the free consultation of CLSI documents is reserved to
members block enrolled by their National Societies.

**Contact your National Society in due time
to make sure to be included in the
block enrolment for 2025**

From November 7 to December 10 EFLM National
Societies have the opportunity to renew the annual block
membership to the EFLM Academy

<https://www.eflm.eu/site/eflm-academy>

Changing of the guard in EFLM National Societies

Reported by **Silvia Terragni**,
EFLM Office

A warm welcome to the new incoming National
Society officers and a great thank you to the outgoing
EFLM National Representatives and National Society
Presidents for the support to EFLM activities during
their terms of office.

Association of Clinical Biochemists in Ireland

Paula O'Shea (UCD School of Medicine, Mater
Misericordiae University Hospital & Our Lady's
Hospital Navan, Ireland) is the new National Society
President of the Association of Clinical Biochemists
in Ireland, replacing Jennifer Brady.



New EFLM publications have been produced by EFLM functional units!

UPDATES ON EFLM PUBLICATIONS

New EFLM scientific papers have been published!

Reported by **Silvia Terragni**, EFLM Office

The EFLM Office is happy to announce the most recent published EFLM papers:

The European biological variation study (EuBIVAS): Biological variation data for testosterone, follicle stimulating hormone, prolactin, luteinizing hormone and dehydroepiandrosterone sulfate in men

Itkonen O, Jonker N, Aarsand AK, Sandberg S, Diaz-Garzone J, Fernandez-Calle P, Coskun A, Bartlett WA, Locatelli M, Carobene A, on behalf of the European Federation of Clinical Chemistry and Laboratory Medicine Working Group on Biological Variation [Chimica Clinica Acta 2024](#)

Assessing post-analytical phase harmonization in European laboratories: a survey promoted by the EFLM Working Group on Harmonization

Zaninotto M, Agnello L, Dukic L, Akhvediani L, on behalf of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) Working Group on Harmonization [Clin Chem Lab Med 2024](#)

Recommendations for blood sampling in emergency departments from the European Society for Emergency Medicine (EUSEM), European Society for Emergency Nursing (EuSEN), and European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) Working Group for the Preanalytical Phase. Executive summary

Garcia-Castrillo L, Cadamuro J, Dodt C, Lauwaert D, Hachimi-Idrissi S, Van Der Linden C, Bergs J, Costelloe S, Grossmann F, Koca A, Palomäki A, Ruiz J.L, Stonys R, Thorsteinsdottir T.K, von Meyer A, Vermeersch P, Alvarez M.C.A, Eker P, Golea A, Kurland L, Lippi G, Zhilenkova Y, Sehmi K [Clin Chem Lab Med 2024](#)

Biological variation of inflammatory and iron metabolism markers in high-endurance recreational athletes; are these markers useful for athlete monitoring?

Diaz-Garzon J, Itkonen O, Aarsand AK, Sandberg S, Coskun A, Carobene A, Jonker N, Bartlett WA, Buño A, Fernandez-Calle P, on behalf of the European Federation of Clinical Chemistry and Laboratory Medicine Working Group on Biological Variation [Clin Chem Lab Med 2024](#)

Biological variation estimates of Alzheimer's disease plasma biomarkers in healthy individuals

Brum WS, Ashton NJ, Simrén J, di Molfetta G, Karikari TK, Benedet AL, Zimmer ER, Lantero-Rodriguez J, Montoliu-Gaya L, Jeromin A, Aarsand AK, Bartlett WA, Calle PF, Coşkun A, Díaz-Garzón J, Jonker N, Zetterberg H, Sandberg S, Carobene A, Blennow K [Alzheimers Dement. 2024](#)

Sex-related differences in within-subject biological variation estimates for 22 essential and non-essential amino acids

Coskun A, Carobene A, Demirelce O, Mussap M, Braga F, Sezer E, Aarsand AK, Sandberg S, Fernández Calle P, Díaz-Garzón J, Erkaya M, Coskun C, Nur Erol E, Dag H, Bartlett B, Serteser M, Jonker N, Unsal I, European Federation of Clinical Chemistry, Laboratory Medicine Working Group on Biological Variation, Task Group for the Biological Variation Database [Chimica Clinica Acta 2024](#)

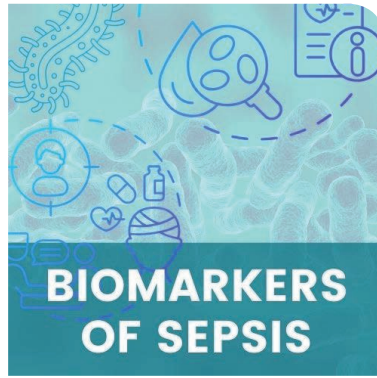


PAST EFLM EVENTS

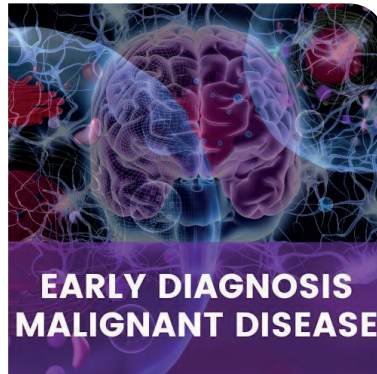
Past EFLM webinars

Reported by Aleksei Tikhonov,
EFLM WG-Promotion &
Publications YS Member, SFBC
Member (France)

The EFLM has successfully conducted a series of insightful webinars from March to May 2024, focusing on a variety of topics crucial to the advancement of laboratory medicine.



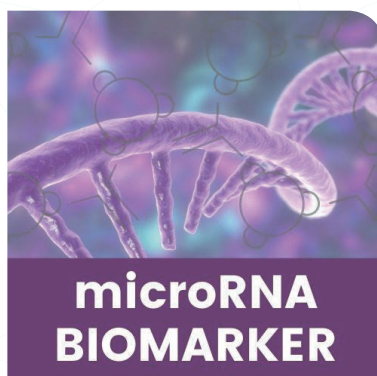
Functional Biomarkers of Sepsis Immunosuppression (5 March 2024): Christos Tsatsanis elucidated the pathogenetic mechanisms of sepsis immunosuppression, offering novel biomarker insights for patient stratification.



Chronic Stress and Exosomes in Alzheimer's Disease (13 March 2024): Patricia Gomes discussed the role of chronic stress in brain pathologies, highlighting exosomes as potential biomarkers for Alzheimer's disease.



Non-invasive Tests for MASLD (26 March 2024): María Sanz de Pedro emphasized the clinical laboratory's role in implementing non-invasive tests for metabolic dysfunction-associated steatotic liver disease screening and diagnosis.



EV-associated Biomarkers in Liquid Biopsies (9 April 2024): Michael W. Pfaffl presented on identifying valid microRNA biomarker signatures in circulating extracellular vesicles, a significant step in categorizing various sepsis and pneumonia stages.



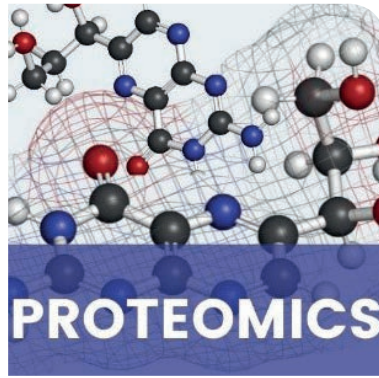
Prioritizing Patient Safety in Laboratory Processes (23 April 2024): Vincent De Guire shared strategies to elevate standards and improve patient safety within laboratory processes.



PAST EFLM EVENTS

Past EFLM webinars

Reported by Aleksei Tikhonov,
EFLM WG-Promotion &
Publications YS Member, SFBC
Member (France)



Proteomics in Biomarker Discovery (7 May 2024): Antonia Vlachou provided insights into the application of proteomics technologies in biomarker discovery, showcasing successful case studies.



Second EFLM Meet the Expert Webinar (9 May 2024) with Damien Gruson from Belgium on the topic "Analysis and Interpretation of Cardiac Markers and Deciphering High-Sensitive Troponin"



AI and Digital Pathology (22 May 2024): Shahar Ish-Salom explored the implications of AI and digital pathology on pathologists and laboratory operations, emphasizing quality control and cost-effectiveness.





Forthcoming EFLM webinars

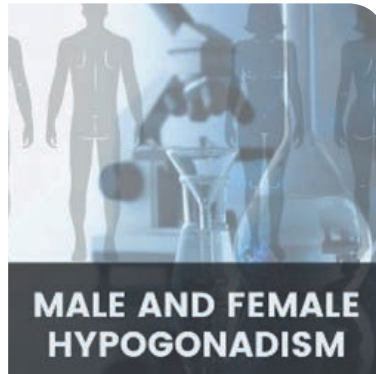
Reported by **Aleksei Tikhonov**,
EFLM WG-Promotion &
Publications YS Member, SFBC
Member (France)

Looking ahead,
the EFLM is set to
continue its webinar
series with topics that
promise to enrich
the knowledge of
professionals in the
field.



Pharmacogenomics and Therapeutic Drugs (4 June 2024): Fernando Marqués-García will discuss the fundamentals of pharmacogenomics and its role in individual responses to therapeutic drugs.

Date: 4 June 2024 at 18:00 CET time



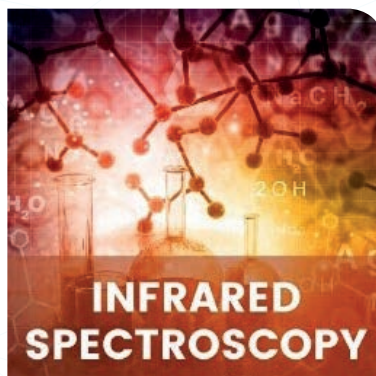
Laboratory Workup of Hypogonadism (18 June 2024): Thorsby Per Medbøe will define hypogonadism in males and females and discuss the laboratory's role in diagnosis.

Date: 18 June 2024 at 18:00 CET time



Middleware in Laboratory Medicine (23 July 2024): Sanja Mandić will explain middleware possibilities for analyzing thyroid hormones and its impact on laboratory reporting.

Date: 23 July 2024 at 18:00 CET time



Infrared Spectroscopy in Clinical Laboratories (27 August 2024): Sander De Bruyne will cover the applications of infrared spectroscopy in clinical laboratories, providing a spectrum of opportunities for innovation.

Date: 27 August 2024 at 18:00 CET time

These webinars are designed to provide attendees with the latest knowledge and practical skills to apply in their professional practice. Stay tuned for these enriching educational experiences.

NEWS FROM EFLM NATIONAL SOCIETIES

EFLM Postgraduate course 'How to write a good scientific and professional article', hosted by the Association of Clinical Biochemists in Ireland (ACBI)

Reported by **Jessica Neville**, Cork University Hospital, Tara O'Brien, University College Dublin, Dr Jennifer Brady, ACBI.

The Association of Clinical Biochemists in Ireland (ACBI) is the EFLM National Society in the Republic of Ireland. The ACBI Council was extremely pleased to be successful in its application to host an EFLM postgraduate course. The chosen course was 'How to write a good scientific and professional article'. After a few teething problems in securing a suitable date, but with perseverance from both the EFLM and the ACBI, the event was held on 2nd February 2024 at the Pillar Centre for Transformative Healthcare on the Mater hospital campus in central Dublin. The sun came out in Dublin to welcome the speakers and delegates who travelled from all over Ireland and from Northern Ireland. We were delighted to give a 'céad míle fáilte' (a hundred thousand welcomes) to Professor Daria Pasalic and Dr Ana Bronic who brought their wealth of experience from Zagreb to deliver the course.

The course is scheduled to be delivered over two days however in order to support maximum delegate attendance it was agreed with the speakers to deliver it over one day. As a result, the agenda for the day was busy but very worthwhile according to feedback from attendees.

The course began with a detailed discussion on scientific methodology and study design. We explored various research designs and the importance of choosing the appropriate methodology to ensure robust and reliable results. A significant portion of the course was dedicated to the importance of ethics in scientific research. We delved into the processes involved in obtaining ethical approval and the necessity of protecting the rights of research participants. This segment highlighted the ethical considerations that researchers must adhere to in order to conduct responsible and respectful research.

Next, we focused on the elements of creating a compelling introduction for a scientific paper. This included guidance on how to clearly state the hypothesis and aims of the study. We learned that a well-written introduction sets the stage for the entire paper, providing context and rationale for the research. Finally in this section of the course, we examined the concept of SMART objectives, emphasising that research objectives should be Specific, Measurable, Achievable, Relevant, and Time-bound. This framework ensures that research goals are clear and attainable, facilitating a more structured and effective research process.

We then moved onto the critical components of the Materials and Methods section. This part of the course underscored the importance of providing a detailed and precise description of the procedures, materials and techniques used in the study. A thorough Methods section is essential for reproducibility, allowing other researchers to replicate the study and verify results. In the segment on presenting results, we learned how to



effectively report and interpret findings. The session emphasised the importance of statistical analysis, discussing key concepts such as sample size, p-values, confidence intervals and the significance of the results. Understanding and correctly applying statistical tools is crucial for validating the study's conclusions and ensuring that the results are both reliable and scientifically sound.

The final part of the morning focused on writing the discussion and conclusion sections of a scientific paper. We discussed how to interpret the results in the context of existing literature, address the study's implications, and suggest areas for future research. Additionally, we learned the importance of acknowledging study limitations to provide a balanced and honest interpretation of the findings.

The afternoon session focused on different styles of presenting literature. The first afternoon session covered the Declaration on Research Assessment (DORA) statement. We discussed how systems of citation are different from journal to journal and the importance of organising references from the get go.

Following on from this was the session on title selection, abstracts and the use of key words. This part of the course outlined the importance of highlighting key information regarding the study in the title and the various types of abstracts used in publication.

We then discussed publication ethics, authorship and plagiarism. We discussed predatory journals and salami publications and the importance of copywriting your work. This session nicely led into the discussion of specific types of articles, from writing reviews to case reports. We also touched on ethical issues focusing on informed consent.

The afternoon wrapped up with a broad discussion on journal selection and covered the general phases involved in the editorial process. This was followed by an interactive workshop among the group where we peer reviewed a manuscript and discussed the results and research question.

Overall, the event was highly informative and provided valuable insights into the various stages of scientific writing and research design. It was an excellent opportunity to learn from experts in the field and to enhance our skills in scientific communication. We would highly recommend this course to others who get the opportunity to attend.



The controversy over the analytical assessment of vitamin D and PSA in prostate cancer screening: Contribution from the clinical laboratory.

Reported by **Mercè Ibarz**, PhD,
SEQC-ML Vice-president

From the XXI Conference of the Scientific Committee of the Spanish Society of Laboratory Medicine (SEQCML), which was held on February 29 and March 1

- There is no consensus in the scientific community when it comes to defining the state of vitamin D deficiency, which generates social alarm and leads to an increase in requests for this vitamin without a justified cause.
- The use of PSA in prostate cancer screening allows early detection of the disease, but also has drawbacks such as overdiagnosis or overtreatment.

An analytical parameter is any measurable magnitude in a specific specimen (blood, urine, feces, or biological fluid...) that is used for the diagnosis, monitoring, prevention, and treatment of a pathology. However, there are some magnitudes that generate controversy in their interpretation or assessment for various reasons, either because in some cases there is no pattern that allows for standardization of the different methods or because the normal values of the population are not clear, among other factors. The Spanish Society of Laboratory Medicine (SEQCML), within the framework of the XXI Scientific Committee Conference, which was held on February 29 and March 1 in Seville, presented the current evidence on the use of some of these conflicting parameters, such as vitamin D and PSA in prostate cancer screening. Vitamin D is one of the most controversial elements, as there is no consensus among the scientific community for defining the standard of vitamin D deficiency. This was stated by Dr. María Monsalud Arrebola, member of the SEQCML Evidence-Based Laboratory Medicine Commission, who addressed the main guidelines available for understanding the bases of the discrepancies related to this parameter in her presentation, "Vitamin D: a very controversial parameter". According to the specialist, this controversy "is creating social alarm and an increase in scientific literature without sufficient scientific evidence, which results in a greater number of requests for vitamin D in the population without justified cause, and an increase in the use of oral supplements." Dr. María Monsalud Arrébola

also presented the main results obtained on methodology in an international external quality control program. Finally, as she explained, "we will analyze which clinical situations require a vitamin D determination, according to the evidence."

The risk of overdiagnosing prostate cancer

Vitamin D is not the only conflictive parameter in the field of Laboratory Medicine. Prostate-specific antigen or PSA is the tumor marker of choice in the management of patients with prostate cancer, with utility in both the prognosis and monitoring of the disease. However, as noted by Dr. Xavier Filella, also a member of the SEQCML Evidence-Based Laboratory Medicine Commission, its use in prostate cancer screening has been the subject of a long and heated debate. In the words of Dr. Filella, one of the main drawbacks of its use is the overdiagnosis and overtreatment of the disease. "That is, the detection of tumors with a low probability of progression, which will not cause symptoms throughout the patient's life and whose treatment may result in harm to the patient." On the other hand, elevation of this antigen above the reference range does not always mean the presence of prostate cancer. Even so, as Dr. Filella highlighted, ruling out PSA screening "can mean a delay in the diagnosis of prostate cancer and, ultimately, the detection of tumors at a more advanced stage when, in many cases, curative treatment may no longer be possible." Currently, most clinical guidelines indicate that the patient should be informed of the possible benefits and harm derived from the practice of prostate cancer screening with PSA in order to be able to make, together with his doctor, the best possible decision. On this matter, as Dr. Filella commented, "the European Commission recommends that Member States implement organized programs for prostate cancer screening for men up to 70 years of age on the basis of PSA measurements, in combination with magnetic resonance".

Active vigilance, key in screening

Dr. Filella used his presentation, "Prostate cancer screening with PSA: analysis of a disputed controversy", to address those data on which this debate has been based and analyze the validity of the results obtained to date, while "at the same time highlighting the pros and cons of the practice of prostate cancer screening with PSA." In turn, he focused on new developments that would allow the inconveniences of screening to be overcome. From active surveillance aimed at correcting problems derived from overtreatment to the implementation of new tumor markers, "whose objective would be to detect only those tumors that are clinically significant and require treatment." Finally, during the XXI Conference of the Scientific Committee, the option of a new approach to screening was presented, which consists of screening only those patients with a high risk of developing a clinically significant carcinoma. In this way, as Dr. Filella highlighted, "the stratification of patients using a PSA measurement may represent an improvement in the management of prostate cancer." The work of the Laboratory Medicine specialist is essential in the interpretation and assessment of any type of analytical parameter. As Dr. María Monsalud Arrebola noted, Clinical Laboratories must put themselves in the best position to inform and educate, since they are the ones that best know the factors they measure. "In this way, they have a direct responsibility with the clinician, imparting knowledge, and also an indirect one with the patients, through the information provided to the clinician with the laboratory results and their interpretation," she concluded.

VIII International Symposium of Laboratory Medicine and Quality Barcelona, April 15 and 16

Reported by **Mercè Ibarz**, PhD,
SEQC-ML Vice-president

Experts defend role of Clinical Laboratory in development of personalized medicine

- Laboratory Medicine allows us to detect changes in a patient's health and predict pathologies thanks to the study of biological variation and with the help of artificial intelligence and machine learning tools.
- The Symposium addressed all phases of the overall laboratory process, from the pre-analytical phase and the stability of samples to the importance of the information contained in the laboratory report in aiding clinical decision making.

Laboratory Medicine plays a crucial role in the development of personalized medicine, by allowing changes in the health of each patient to be detected through biological variation and personalized reference intervals. This is one of the conclusions shared by the renowned speakers during the VIII International Symposium on Laboratory Medicine and Quality, which was held on April 15 and 16 in Barcelona. At the event, organized by the Spanish Society of Laboratory Medicine (SEQCML) and sponsored by the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) and the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM), the news and issues of greatest interest in the different phases of Clinical Laboratory work, from the pre-analytical phase and the stability of samples to the importance of the Laboratory report in helping clinical decision-making.

The work of the Clinical Laboratory has a broad range of applicability in the field of personalized medicine. In the words of Dr. Pilar Fernández-Calle, president of the Symposium Organizing Committee, president of the External Programs Organizing Committee and member of the Analytical Quality Commission of the SEQCML, a patient diagnosis is obtained by comparing the result obtained with a reference. This reference is usually, as Dr. Fernández-Calle highlights, a reference interval obtained from a reference population to which the patient supposedly belongs. "However, there are cases in which the patient does not belong to that population (for example, because he or she is of a different ethnicity than the reference population), so that this element of comparison, the population reference interval, is no longer right for him or her."



According to Dr. Fernández-Calle, personalized medicine would consist of being able to individually link each patient with their own own reference intervals, "so that when there is a change in a test parameter it can be assigned to a change in their own health status, which may be different from another individual even if they belong to the same population."

In this context, the Clinical Laboratory, through biological variation and personalized reference intervals, "is a tool that can be used to provide this information, in continuous communication with the healthcare professional." In addition, the Symposium speakers shared the latest developments in artificial intelligence and machine learning, which are capable of generating predictive models for the development of diseases, such as diabetes, or the progression of a disease.

Sample transport

In addition to focusing on the possibilities of personalized medicine, the speakers participating in the Symposium delved into key aspects related to the pre-analytical phase of the Clinical Laboratory, among them, the appropriateness of demand. "That is, the relevance of making a request regarding a specific patient at a specific time and its diagnostic validity," as Dr. Fernández Calle explained. Likewise, the relevance of factors such as the transport time of the samples was shown, which, although sometimes considered as "secondary aspects", have an important influence on the quality of the sample.

External Quality Assurance Programs

Regarding the analytical phase, the Laboratory Medicine specialists stressed the importance of the standardization of the External Quality Assurance Programs for Clinical Laboratories, which constitute an essential tool for knowing and improving the analytical reliability of Clinical Laboratory results. As Dr. Fernández-Calle indicated, one of the ways to diagnose a patient is to use a cut-off point. "This cut-off point, such as 200 milligrams (mg) of cholesterol per deciliter (dL) of blood, which determines whether we are at desirable levels or not in terms of cardiovascular risk, is made in epidemiological studies with a method of measurement. However, if that measurement method is not interchangeable with others, that cut-off point should not be the same for all methods." In this way, the aim is to ensure that all methods are standardized and that, when they give 200 mg/dL, the same result is obtained throughout the world. However, as Dr. Fernández-Calle pointed out, this is not always possible for all tests.

Thus, what the organizers of the External Quality Assurance Programs do is detect these differences, identify which test types have problems, and raise awareness among scientists and in vitro diagnostic providers, so as to work towards achieving the harmonization and standardization of these methods and being able to use that single cut-off point. The problem is that this is unknown to clinicians, but not to laboratory specialists, and we must work side-by-side in this, according to Dr. Fernandez-Calle's presentation.



Dr. Pilar Fernández-Calle, president of the Symposium Organizing Committee

Harmonization of laboratory reports

Finally, Laboratory Medicine specialists addressed the need to standardize laboratory reports, which transcend their function as simple issuers of numerical results. Right now, as Dr. Fernández-Calle evidenced, "any report that reflects a numerical value is not taking advantage of all the knowledge and all the tools that the laboratory has at its disposal to help in clinical decision-making." A major effort is being made to transmit and make health professionals aware of the extent of the Clinical Laboratory's knowledge. This is how Fernández-Calle explained it: "A clinical guideline on the diagnosis of myocardial infarction or diabetes cannot be prepared by establishing cut-off points without the laboratory being involved because clinicians are unaware of many of the aspects that are influencing the methods and patient results. For example, clinical studies may have been carried out with a method whose results are not transferable to others. "These types of particularities are only known by the Clinical Laboratory and it is, therefore, very important that laboratory specialists are present in all these fields because this adds value to the specialty of Laboratory Medicine and, above all, offers greater security to clinicians and patients."



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The IFCC is pleased to announce the names of the winners of the **six IFCC Distinguished Awards 2024** that are bestowed to laboratory medicine professionals to recognize their outstanding achievements, publicize their exceptional research and contributions to medicine and healthcare, and encourage the overall advancement of clinical chemistry and laboratory medicine.

IFCC NEWS

IFCC Distinguished Awards 2024

Prof. Philippe Gillery (France)

is the winner of the 2024 IFCC Howard Morris Distinguished Clinical Chemist Award (since 2020); IFCC Distinguished Clinical Chemist Award (1967- 2017), sponsored by Yashraj Biotechnology Ltd. This prestigious award recognizes specifically an individual who has made outstanding contributions to the science of Clinical Chemistry and Laboratory Medicine or the application of Clinical Chemistry to the understanding or the solution of medical problems. [Click here](#) to read more about Prof Gillery and the 2024 IFCC Howard Morris Distinguished Clinical Chemist Award.

Prof. Terho Lehtimäki (Finland)

is the winner of the 2024 IFCC Award for Significant Contributions in Molecular Diagnostics, sponsored by Abbott Molecular. This award recognizes specifically an individual who has made unique contributions to the promotion and understanding of molecular biology and its applications in Clinical Chemistry and Laboratory Medicine worldwide. [Click here](#) to read more about Prof Lehtimäki and the 2024 IFCC Award for Significant Contributions in Molecular Diagnostics.

Prof. Etienne Cavalier (Belgium)

is the winner of the 2024 IFCC Distinguished Award for Laboratory Medicine and Patient Care, sponsored by Snibe. This award recognizes specifically an individual who has made unique contributions in Laboratory Medicine, its application in improving patient care, and having a worldwide impact in clinical medicine. [Click here](#) to read more about Prof Cavalier and the 2024 IFCC Distinguished Award for Laboratory Medicine and Patient Care.

Prof. Allan Jaffe (United States)

is the winner of the 2024 IFCC Distinguished Award for Contributions to Cardiovascular Diagnostics, sponsored by Hytest. This award honours an individual who has undertaken remarkable scientific work with cardiac markers or immunodiagnostic applications to improve cardiac disease diagnosis. [Click here](#) to read more about Prof Jaffe and the 2024 IFCC Distinguished Award for Contributions to Cardiovascular Diagnostics.

Prof. Zhen Zhao (United States)

is the winner of the 2024 IFCC Distinguished Women Scientist Award For Contribution to In Vitro Diagnostics, sponsored by Yashraj Biotechnology Ltd. 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. [Click here](#) to read more about Prof. Zhao and the 2024 IFCC Distinguished Women Scientist Award For Contribution to In Vitro Diagnostics.

Dr. David Barthelemy (France)

is the winner of the 2024 IFCC- Gérard Siest Young Scientist Award for Distinguished Contributions in Pharmacogenetics, sponsored by Biologie Prospective. 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. [Click here](#) to read more about Dr. Barthelemy and the 2024 IFCC- Gérard Siest Young Scientist Award for Distinguished Contributions in Pharmacogenetics.

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Calendar of EFLM events and events under EFLM auspices

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EFLM Webinar

Role of pharmacogenomics in the individual response to therapeutic drugs
on-line, 4 June 2024



9th International Symposium on Critical Care Testing and Blood Gases
Saint Malo (FR), 13-14 June 2024



42nd Vicenza Course AKI-CRRT-ECOS and Critical Care Nephrology
Vicenza (IT), 11-13 June 2024



EFLM Webinar

Male and female hypogonadism - Laboratory workup
on-line, 18 June 2024



International Symposium on Laboratory Medicine
Paris (FR), 20 June 2024



EFLM Webinar

Between analyzer and laboratory medicine professional
on-line, 23 July 2024



EFLM Webinar

Infrared Spectroscopy in the Modern Clinical Laboratory: A spectrum of opportunities
on-line, 27 August 2024



EFLM Meet the Expert - Interpretation of Laboratory results
Interpretation of Laboratory results on kidney function
on-line, 5 September 2024



Modern Times in Laboratory Medicine
SSCC/SGKC Annual Assembly 2024
Zurich (CH), 4-6 September 2024



XVII Baltic Congress of Laboratory Medicine
Vilnius (LT), 5-7 September 2024

-  **XXIII Serbian Congress of Medical Biochemistry and Laboratory Medicine with international participation**
Belgrade (RS), 16-18 September 2024
-  **39th Nordic Congress in Clinical Chemistry**
Stockholm (SE), 17-20 September 2024
-  **4th EFLM Strategic Conference**
A Vision to the future: value-based laboratory medicine
Padua (IT), 23-24 September 2024
-  **EFLM Webinar**
Post analytical procedures
on-line, 24 September 2024
-  **Cardiac Marker Dialogues: Cardiac Biomarkers in Real Time - experiences and opportunities**
Glasgow (UK), 26-27 September 2024
-  **XVI Bulgarian National Conference of Clinical Laboratory**
Varna (BG), 27-29 September 2024
-  **XV Congress of Slovak Society of Clinical Biochemistry**
Demänovská Dolina, Low Tatras (SK), 6-8 October 2024
-  **EFLM Webinar**
Global coagulation testing - Global fibrinolysis testing
on-line, 8 October 2024
-  **11th Congress of the Croatian Society of Medical Biochemistry and Laboratory Medicine with International Participation**
Vodice (HR), 9-12 October 2024
-  **EFLM Webinar**
Web based Clinical Decision support tools
on-line, 17 October 2024
-  **EFLM Webinar**
Hydrogen and methane breath tests in the service of the Gastroenterology
on-line, 29 October 2024
-  **Joint Congress of XXXI Meeting of the Balkan Clinical Laboratory Federation (BCLF 2024) and 35th National Biochemistry Congress of TBS**
Antalya (TR), 27-30 October 2024
-  **EFLM Meet the Expert - Interpretation of Laboratory results**
M-protein diagnostics: analysis and interpretation of protein electrophoresis of serum, urine and cerebrospinal fluid
on-line, 7 November 2024
-  **ACBI Annual Conference**
Athlone (IE), 8-9 November 2024
-  **22nd National Congress of Clinical Chemistry Clinical Biochemistry**
Athens (GR), 8-10 November 2024
-  **Annual Meeting of the RBSLM 2024**
Brussels (BE), 14-15 November 2024
-  **Evaluating and monitoring analytical quality in the traceability era**
Bydgoszcz (PL), 29 November 2024
-  **EuroMedLab 2025**
26th European Congress of Clinical Chemistry and Laboratory Medicine
49th Annual Meeting of the Royal Belgian Society of Laboratory Medicine
Brussels (BE), 18-22 May 2025

EFLM

EUROPEAN FEDERATION OF CLINICAL CHEMISTRY
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