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Happy Holiday Season



Foreword

by Harjit Pal Bhattoa, Editor EFLM EuroLabNews

SEASON'S GREETINGS FROM THE EFLM PRESIDENT

Season's greetings from the EFLM President



Dear Colleagues and Friends,

Holiday Season and Christmas are approaching. I would like to send you my personal greetings to be published in the December issue of EuroLabNews.

Holidays perhaps are best celebrated expressing gratitude and reflecting on the happenings of the past year. I have started serving to the EFLM community as the EFLM President in 2022

which is a big honour and privilege for me and I would like to give you a brief information about the activities of EFLM in 2022.

During the challenging two years of the COVID-19 pandemic, we all learned how to adapt to our new on-line work and conference style and how to protect our lives during the challenge. The year 2022 showed us the light at the end of tunnel, where science and innovation prevailed and helped us thwart the pandemic. The COVID-19 pandemic has exposed the enormous role that laboratory medicine plays in responding to the global public health emergencies. The COVID-19 pandemic was and still is a very difficult time for most of us, but it has been also an opportunity

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Please allow me to introduce perhaps the most hefty EuroLabNews issue to date, which I believe illustrates the laboratory community's resilience and its agility to meet challenges, even as dire as the COVID-19 pandemic. The sheer content and volume of this issue is testi-

mony to the dedication of the EFLM and its umbrella organisations. This issue's professional expression is indeed in line with the spirit of the upcoming festive season. The season's greetings from the President of the EFLM Tomris Ozben commemorate this year's final issue, where she summarises all major happenings of the year and highlights memorable events that will definitely be cherished for many years. Our news column, EFLM office informs is compiled by Silvia Cattaneo of the EFLM office, where she dedicatedly informs us of all upcoming important events and grants of the EFLM. Our sincere colleague Silvia Terragni, also from the EFLM office, highlights various vacancies in a variety of EFLM committees and functional units. All readers are encouraged to apply for these prestigious appointments. Coffee with the President column runs 4 interviews with prominent EFLM personalities. Interviews with senior laboratory colleagues column this time around is sparkled by Michael Langlois with

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Editorial Information

Newsletter Editor. Dr. Harjit Pal Bhattoa, Faculty of Medicine, Dep of Laboratory Medicine, University of Debrecen Hungary

EFLM Executive Board:

T. Ozben, AM. Simundic, M. Plebani, S. Jovicic, K. Kohse, P. Fernandez-Calle, D. Vitkus

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to demonstrate the extraordinary value and significant contribution of our profession in the global joint battle against COVID-19 pandemic. Laboratory medicine was at the core of the defence strategy, providing effective tests for the detection of COVID-19 infection, monitoring of the disease progression and measuring the functions of immunity.

Although on-line events proved to be convenient during the COVID-19 travel restrictions, the opportunity to resume in-person meeting was cherished in April 2022 at the 24th IFCC-EFLM EuroMedLab Congress hosted by the German Society for Clinical Chemistry and Laboratory Medicine (DGKL) in Munich after postponement twice from the original date of May 2021. The objective of this meeting was not only to contribute to the advancement of laboratory medicine and to the dissemination of advanced knowledge, but also to foster the creation of an opportunity to establish professional and scientific links/bridges among the participants. The joy of meeting with old and new colleagues personally was unparalleled, which is perhaps also well-illustrated by the huge turnout of over 3 000 participants at the event.

EFLM organized the 6th EFLM conference on-line on the pre-analytical phase, which focused on the importance of interdisciplinary collaboration between healthcare workers. The take-home message of this conference is the encouragement of laboratory professionals to engage with diagnostic and clinical disciplines, increase interdisciplinary strategies, and embrace new technologies to improve patient care.

The 3rd EFLM Strategic conference entitled "SMART and GREEN LABORATORIES. How to implement IVDR, emerging technologies and sustainable practices in medical laboratories" was successfully organized on-line in May 2022. More than 1000 delegates attended the Conference. A panel of experts discussed what is needed for successful collaboration between industry, public, private and academic drivers of innovations. In this well attended conference, 8 important sessions were held with distinguished and outstanding international expert speakers. It highlighted the importance of the following topics: Where is the MedLab industry headed in the next decade? Partnership model for efficient integration and adoption of emerging technologies and innovations (artificial intelligence, machine learning, advanced and integrative diagnostics) in the IVD landscape into medical laboratories; Digital transformation towards the laboratory of the future. Perspectives for the next decade; Big data and how to utilize it to improve service, quality and patient outcomes. Training the next generation to collect/analyze and use lab data in a more efficient manner with more focus on post-analytics than analytics; How to implement IVDR; Green Labs for improving environmental sustainability; Novel technologies and clinical research in enabling precise and

his marvellous interview with Sverre Sandberg, an EFLM celebrity in his own right. The arduous efforts of the laboratory community to expose and make visible its work and activities is paramount and these have borne fruit with the conception of the 1st EFLM EuLabDay, Tara Rolic, one of our prolific members has compiled an elegant report detailing all its highlights from various parts of Europe.

The Slovakian, Croatian, Turkish, Slovenian, Irish and Spanish societies report on their latest ventures, conferences and activities. Ales Kvasnicka, member of the EFLM Communication Committee has elegantly summarised all important EFLM events in the near past and has presented an update on the EFLM scientific publications. Changing of the guard is being reported by the Croatian, Czech and Polish societies. Under its regular column, the IFCC corner presents global perspectives in Laboratory Medicine. The Calendar of Events lists all major happenings in our field, happily without an alert of possible change of dates. Before I draw the curtain on the final issue of this exemplarily active year, please allow me to give a standing ovation to the Editorial Team of the EuroLabNews, namely Silvia Cattaneo, Silvia Terragni, Lelja Alic, Tara Rolic, Alex Tihonoff, Ales Kvasnicka and our Chair, Daniel Rajdl. I thank you all, and I am honoured to be a part of this Editorial Team. Last but not least, we here at the Communications Committee would like to express our gratitude to all our contributors, without their input and news items the EuroLabNews would not be feasible. On behalf of my dedicated committee members, I wish our readers a peaceful festive season with good health, and a joyous and prosperous New Year.

personalized medicine; Strategic vision for laboratory services that add value. Cost-effective and clinically effective laboratory services; Direct to consumer testing. The recorded conference presentations are available for one year on the e-learning platform for the EFLM Academy Members. An upcoming special issue of CCLM is dedicated for the Strategic Conference. As a consequence of the 3rd Strategic Conference, EFLM has established a new WG-Artificial Intelligence in addition to the TF-Green Labs and TG-Chronic Kidney Diseases. Two WGs/TFs are under preparation on the Conference topics. Calls will be issued shortly, and you are welcome to take part in these activities.

EFLM Task Force "Green and Sustainable Laboratories" has been established recently for the contribution of Laboratory Medicine to a sustainable healthcare system ensuring that resources are used efficiently from ecological, social, and economical perspectives, while providing high-quality services to patients and physicians. EFLM and its Member Societies will lead the laboratory medicine community for the shift to carbon neutrality in line with the European Green Deal (EGD) Investment Plan, also known as the Sustainable Europe Investment Plan, which is aimed at making Europe the world's first climate-neutral continent. Manuals, Guidelines. Checklists on key areas were completed. A logo was prepared, and ISBN code was received for the guidelines. PowerPoints, and video recordings on main topics: Energy, Waste, Water, and Chemicals have been shared with the 49 delegates appointed by the national Societies in Europe. Applications to receive Green Lab Certificates from Laboratories will be launched very soon after a workshop organized with the EFLM National Societies. EFLM is proud to announce the recently prepared CPECS®

administrative system that serves as the quality assurance mechanism for the accreditation of continuing education programs and events offered to clinical and medical laboratory professionals based on high-quality continuing education content in laboratory medicine and relevant scientific topics. It will be applied first time in the history of IFCC and EFLM for the accreditation of the WorldLab/EuroMedLab Congress to be held in Rome in 2023 and credits will be given to the attendees. EFLM Academy keeps growing offering an exclusive platform for education, continuous professional development and some important benefits for its members. At the beginning of this year, the EFLM Syllabus course was launched. It is the most comprehensive online course in Laboratory Medicine. EFLM Academy members can access 43 modules and listen to more than 300 distinguished expert speakers. Thanks to the extraordinary efforts of the lecturers and coordinators of the EFLM Task Group Syllabus course chaired by Ana-Maria Šimundić.

EFLM webinars were hosted on the e-learning platform throughout the year, with topics encompassing the various fields of laboratory medicine. EFLM Academy members were given opportunity to participate in four special-edition webinars 'Lesson in Immunochemistry' which introduced the principles and applications of clinical immunochemistry in laboratory medicine and were achieved by fruitful collaboration between clinicians and laboratory medicine professionals.

I am particularly proud of new and continuing EFLM endeavours, such as EFLM Academy award, Research Grants, Prof. Vic Blaton scholarship program, bursaries for EuroMedLab meetings, LabX program, a list of prominent speakers in the Speaker's Bureau, the new website of the EFLM Biological Variation database and the celebration of the first European Laboratory Day which are a few gemstones of the EFLM.

We have remained persistent in publishing interviews with past and senior colleagues, to convey our gratitude and acknowledge for the contribution of our former EFLM officers and have continued to publish Coffee with the EFLM President series of interviews with over 20 colleagues willing to take interviews and share their professional and private views on laboratory medicine.

EFLM has kept its mission to focus and strive for excellence in promoting Laboratory Medicine. It is achieved through the dedicated efforts of more than 200 laboratory professionals working voluntarily in various Functional Units. I would like to take this opportunity to express my appreciation and gratitude to all Committee, Working and Task Groups members. I extend my warm welcome to enthusiastic new colleagues who have recently joined the EFLM family in the recently established Functional Units.

Having conveyed my thoughts, it is not easy to find a word to describe how proud and happy I am in this vibrant EFLM community. I am grateful for the creativity of the EFLM officers and for their voluntary work in which they are dedicated and committed. It is very encouraging to see how many of you have heeded and contributed your expertise in various committees, improving exchanges and relations between members. I am looking forward to meeting you all in presence at the upcoming EuroMedLab in May 2023 in Rome. I would like to, personally and on behalf of the EFLM, send all our members best wishes for the upcoming holidays and a happy, healthy, peaceful and prosperous New Year.

Tomris Ozben
EFLM President (2022-2023)

EFLM OFFICE INFORMS

Need help to attend the EuroMedLab in Rome? Know more about the EFLM bursaries programme!

Reported by Silvia Cattaneo, EFLM Office

EFLM is happy to promote the EFLM bursaries' programme on occasion of the EuroMedLab Congress next May in Rome.

Number of available bursaries:

- **10 for Young Scientists ≤35y from EFLM National Society and Academy Members**
- **5 for selected EFLM National Society and EFLM Academy Members without age limit**

What the bursary covers: travel and 4-night accommodation up to a limited amount (the registration fee is waived by the Congress Organizing Committee)

How to apply: using the specific application form (downloadable from the leaflet) to be sent to eflm@eflm.eu **within March 1, 2023**.

Download the leaflet to know more about the entry criteria

Leaflet: Bursaries for Young Scientist ≤35y

Leaflet: Bursaries for selected EFLM countries

[click here to see the criteria for evaluation of bursaries' applications](#)

[click here to see the criteria for evaluation of bursaries' applications](#)





EFLM promotes science and facilitate research in Laboratory Medicine in Europe: the EFLM Research Grant 2023!

Reported by Silvia Cattaneo, EFLM Office



The EFLM Scientific Research Grant has been established to promote science and facilitate research in Laboratory Medicine in Europe.

Two grants of the maximum amount of **EUR 10.000** each, are awarded each year, one for an applicant coming from a country enjoying "Vic Blaton" scholarship program and the other for an applicant coming from any other country in Europe.

Applicants must submit a detailed budget of the study with a list of all required reagents or consumables, necessary to perform their study.

It is the responsibility of the applicant to ensure that allocated funds are sufficient to allow completion of the study. If additional funds are needed, a letter of support from a third party is provided that confirms that the rest of the budget shall be covered by that third party.

The responsibility of the selected applicant is to publish the findings of the study in an international (preferably) or national peer-reviewed journal, within two years, after receiving the grant. The grant's recipient who fails to fulfil this requirement shall be automatically disqualified from all future applications for any other EFLM award, bursary or grant within the next five years. The selected applicant can apply for this grant only once. Eligible applications will be judged by a Research Grant Evaluation Committee composed of the Chair of the EFLM

Committee for Science, the Chair of the EFLM Committee for Education and Training and one EFLM Executive Board Member selected by the EFLM President. Applications will be evaluated according to selected criteria ([click here to know more](#)).

ENTRY CRITERIA – the nominated individual:

- must be from an EFLM Full National Society Member,
- must be Member of the EFLM Academy at the time of the application,
- none of the officers of the EFLM Executive Board are eligible for the award during their term of office.

SUBMISSION PROCEDURE

Applicants are requested to fill in the following forms:

- [EFLM scientific research grant application](#),
- [Scientific and professional experience of the applicant](#),
- [Study budget \(Excel document\)](#)

Applications must be accompanied by the confirmation from the EFLM Full National Society Member that the applicant is a member of the Society and invoices used to produce the budget.

Applications and all supporting documents must be written in English and submitted electronically to the EFLM Office: eflm@eflm.eu **within 15 January 2023**.

Save the date to apply for the EFLM Academy Award 2022!

Reported by Silvia Cattaneo, EFLM Office



The EFLM Academy award has been created to promote excellence and honor extraordinary individuals who have made substantial contribution to the education in Laboratory Medicine in Europe.

The award aims to encourage educational activities and recognize the value and importance of education for EFLM.

The award is granted annually to the author of the most distinguished educational activity or a project in the past 5 years. Eligible are various high quality educational materials, like educational papers, handbooks, books or book chapters, online educational resources, educational courses and workshops. EFLM values inclusiveness and accessibility through removing barriers and sharing resources in education. Therefore, although consideration will be given both to National and European projects, the preference will be given to the most outstanding European projects aimed to a wide International audience.

ENTRY CRITERIA – the nominated individual:

- must be from an EFLM Full National Society Member,
- must be Member of the EFLM Academy at the time of the application,
- must be the leading author or editor or chair of the educational project which has been launched within the past 5 years,
- must not be nominated in the same year for any other EFLM award,
- none of the officers of the EFLM Executive Board are eligible for the award during their term of office.

SUBMISSION PROCEDURE – Individuals may be nominated by either of the entities listed below:

- their own National Society,
- any other EFLM member Society (Full, Affiliate or Provisional), from a country different from the country of the nominee.

Applications must be accompanied by:

- a statement of the reasons for the nomination, highlighting the accomplishments of the individual;
- a statement that the individual was not nominated in the same year for any other EFLM award;
- a detailed description of the accomplishments related to the purpose of the award;
- the documents/links/references providing the evidence of the educational activity and contribution (leaflets, promotional materials, book covers, etc.)
- a short curriculum vitae of the nominee

The award will be given on occasion of the EuroMedLab Congress 2023 in Rome.

The award winner will receive a trophy and a certificate. As a token of appreciation, the winner will also receive the free registration, travel and accommodation for the EuroMedLab Congress where the award will be presented.

Applications and supporting documents must be written in English and submitted electronically to eflm@eflm.eu **within 15 January 2023**.



Vacancies in functional units under the EFLM Committees

Reported by Silvia Terragni, EFLM Office

EFLM functional units are always at work and they make valuable contributions. The current year ends with some very interesting vacancies that EFLM Full National Societies are warmly invited to fill.

Open positions are:

WG “Register” (WG-R) - Deadline 10 December

[1 Full Member and 1 Young Scientist Full Member \(≤ 35 years of age at the time of appointment\)](#)

WG “Congresses and Postgraduate Education” (WG-CPE) - Deadline 10 December

[1 Young Scientist Full Member \(≤ 35 years of age at the time of appointment\)](#)

WG “Harmonisation” (WG-H) - Deadline 20 December

[1 Full Member](#)

WG “Accreditation and ISO/CEN standards” (WG-AISO) - Deadline 20 December

[1 Full Member](#)

Click on the above positions to know more about the requirements and the evaluation’s procedure.

The term of office will be for 2 years (Jan 2023 - Dec 2024). The position could be renewable for other two more terms if the work for the Group is deemed essential at that time. The work is mainly conducted by e-mail and teleconferencing, the WG usually meets once per year.

Procedure for applications: each EFLM National Society Member in good standing with the membership fee can submit one nomination using the form circulated to the National Society’s representatives to be sent back to silvia.terragni@eflm.eu. A brief plan of the applicant’s contribution to the aims and objectives of the relevant Working Group must be included in the form. Candidates must be officially recommended by their National Society through a formal letter of support. Applicants who are not selected as full members may be eligible for corresponding membership.

COFFEE WITH THE EFLM PRESIDENT



Dear Colleagues,
Dear Readers,

In this edition of the EFLM eNewsletter, in the section “Coffee with the President”, I present to you with great pleasure interviews with distinguished Presidents/National Representatives of the EFLM member Societies: Anyla Buló, Antonio Buno, Nada Majkić-Singh and Milena Velizarova.

I would like to thank my guests for being available to share their experiences, thoughts and opinions about EFLM, our profession and give the opportunity to the large EFLM audience to get to know them and their society better. We are all very grateful for their substantial contributions to the EFLM and its mission that make EFLM what it is today.

I hope you will enjoy reading these interviews with our esteemed colleagues.
Tomris Ozben
EFLM President



Could you briefly introduce your society? When was it founded, who can become a member, activities of your society, what has been done so far and future activities, projects, plans?

The Albanian Society of Clinical Biochemistry & Laboratory Medicine (ASoLaM) was founded in 1992, immediately after the fall of the communist regime in Albania. In 2003, it

was reorganized around a new generation of laboratory medicine specialists who came in with a fresh perspective, breathing new life into the society. SIBioC played an essential role in the creation and growth of ASoLaM. Prof. Victor Blaton has been an inspiring mentor, guiding us throughout the fragile journey of our association toward consolidation and internationalization. ASoLaM's overarching mission is to promote, develop and update laboratory medicine in Albania. Our membership is composed entirely of medical doctors currently practicing in Albania, who specialize in clinical biochemistry and laboratory medicine. The primary focus remains educating, training, and updating our members on the latest technological developments and trends. Another essential goal of this association is to promote professional cooperation among colleagues in the same field or related medical fields domestically and abroad.

ASoLaM is a full member of EFLM and IFCC. Over the years, ASoLaM has organized important international activities such as the 13th, 18th, and 24th Meetings of the Balkan Clinical Laboratory Federation in Tirana, Albania. It also continuously organizes national conferences and educational and training activities for its members and beyond.

What are your suggestions for better education? Is the current education in your country fit for the purpose? Do you have a core curriculum for the training of medical biochemistry professionals?

Currently in Albania, we are fortunate that post-graduate education in clinical biochemistry and laboratory medicine has been well-harmonized. Since 1984, in Albania the only university institution offering post-graduate specialization in clinical biochemistry is the Department of Laboratories, Faculty of Medicine, a public university established in 1952. All clinical biochemistry specialists practicing in Albania are medical doctors who, upon graduating in medicine, continue their training with a 4-year post-graduate specialization in clinical biochemistry. In 2015, the post-graduate specialization in this field was updated to implement a syllabus that reflects the EFLM and UEMS recommendations. Today we have a harmonized post-graduate program in clinical biochemistry that is aligned with the European syllabus and EU directives.

We appreciate all efforts of EFLM to harmonize post-graduated education in laboratory medicine in Europe. This is a visionary effort to harmonize and standardize the profession and the quality of service we will offer to the patient.

What is the greatest strength/weakness of your society? What challenges do you and your colleagues face?

ASoLaM is a small association because Albania is a small (but wonderful) country with only about 3 million inhabitants. Despite the association's modest size, the young age of ASoLaM's members is a driving force in inspiring novel approaches and applying new technologies and trends, undoubtedly essential in improving patient service and outcomes.

In Albania, there is a strong positive movement to improve, centralize and standardize the public and private medical laboratory service, enabling the application of new technologies and standardizing the laboratory medicine service through accreditation ISO 15189.

In what direction do you see the laboratory medicine heading? What do you think for the position of the laboratory specialist to increase their visibility within the healthcare system?

Indeed, the contribution of medical laboratory specialists is generally invisible to the public; this specialist often remains hidden within the laboratory's walls. Such is also the case in Albania. But the COVID-19 pandemic in Albania also highlighted the irreplaceable and essential role of medical laboratories, which provided an invaluable service in the diagnosis, follow-up and treatment of hundreds of thousands of patients over a short timeframe. Highlighting the essential role laboratory specialists play in public health is no simple task, and our profession's visibility remains an enduring challenge as a result. Solving this requires a tireless effort and persistence in promoting the importance of our profession to the public and the health system. We should intensify and strengthen the cooperation with clinical doctors and their professional associations, demonstrating our critical role in the medical service. ASoLaM makes continuous efforts to cooperate with the associations of clinical doctors by organizing joint activities. We also continuously encourage our members to intensify counseling for their patients and to become actively involved in interdisciplinary consultations to demonstrate their invaluable role more effectively.

Do you think medical biochemistry professionals are ready for the emerging technologies such as Digitalization, Laboratory Diagnostic Algorithms, AI, ML, Integrative Diagnostics, Big Data? Do you believe in Partnership model for efficient integration and adoption of emerging technologies and innovations?

The inclusion of technologies such as digitization, artificial intelligence, diagnostic algorithms, and the use of big data in laboratory medicine are all highly intriguing trends. Reflecting these turnkey innovations in our field's development, the Department of Laboratories, UMT, is making efforts to realize small projects supporting these technologies. The future undoubtedly belongs to these technologies, where the role of laboratory medicine specialists should be essential. As laboratory medicine specialists, we must continue to adapt and evolve our role to keep step with these global technological developments without diluting our essential role in laboratory.

Do you think your society members participate and/or contribute enough to EFLM activities? Do they know



the advantages to be EFLM Academy membership, for example, the unique educational resource "Syllabus course", free attendance to the recently held 3rd EFLM Strategic Conference, its sessions were recorded and are available for one year?

As a small association with a limited capacity to organize many educational and training events, EFLM's activities are of great importance to us. We are pleased to note that in recent years EFLM has significantly intensified its activity, facilitating many valuable educational activities for medical laboratory specialties. ASoLaM continuously informs its members about EFLM activities, encouraging them to participate. About 95% of our members have been members of EFLM Academy since its inception. We are very grateful to EFLM Academy for the golden opportunity it has given to our members to participate in the educational activities it develops. Likewise, the "Syllabus course" is an ingenious idea with an indisputable impact on improving the education of our laboratory medicine specialists.

What do you think about the ongoing and recent EFLM activities/initiatives? Do you have suggestions to increase communication and cooperation with EFLM? What you like and dislike about EFLM?

EFLM has significantly increased its educational activity during the last years. The expansion of distance learning and "online" educational activities in particular, easily attended remotely, has significantly impacted our members. There is a revitalizing spirit in EFLM. We hope that this spirit will persist in the future.

Some Personal questions...

Please introduce yourself with a few sentences.

I am a professor of clinical biochemistry and head of the Laboratory Department, Faculty of Medicine, University of Medicine, Tirana. Graduating as a medical doctor in 1986 and then completing my specialization in Clinical Biochemistry in 1990, I have been engaged in professional practice as a clinical biochemistry specialist at Central Clinical Biochemistry Laboratory, University Hospital Center "Mother Teresa," where I am the director. I have also been running the post-graduate specialization school for clinical biochemists in Albania for many years. I am president of ASoLaM and head of the technical group responsible for ISO

15189 accreditation of medical laboratories in Albania. Every day, I give my best as a laboratory medicine specialist to help both my patients as well as my medical and post-graduate students.

In your professional career, you have served in many leading roles both in your country and internationally. What was your motivation?

Simply put, my daily motivation is my love for the medical profession and my passion for laboratory medicine. I enjoy the feeling of having cared for my patients well and playing a critical role in solving their problems. If I were to go back in time, my career choice would not differ. There is no better motivation than waking up to a career you love every day and for this, I am truly fortunate.

Could you share your way in biochemistry? Why did you choose this field? What do you like about your current job? Do you think that you chose the right job for you? If you have another chance?

During the period I graduated as a doctor, the choice of specialty did not depend on the individual's desire but rather on the needs of the institution where you worked. Therefore, choosing the specialty of clinical biochemistry was not my immediate personal choice. Having just graduated in medicine, I wanted to exercise a clinical activity and engage in extensive communication with my patients. But I soon realized that laboratory medicine was always close by and at their service. Without laboratory tests, there was no diagnosis, treatment, follow-up or prevention of the disease. Laboratory medicine was a dynamic profession that gave me the opportunity to continuously learn new technologies and concepts. And that's how quickly I immersed myself and fell in love with this specialty of medicine, which I constantly advise my students. Likewise, my activity as a teacher, always surrounded by my students, makes this profession even more satisfying. Their youth, energy, and enthusiasm always inspire me to give the best for them. I am delighted that today in Albania, many young medical doctors choose to specialize in clinical biochemistry and laboratory medicine, which remains an attractive specialty among them.

What would be your advice to young scientists who wish to pursue their career in laboratory medicine?

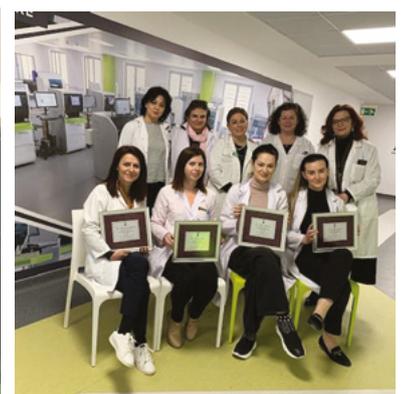
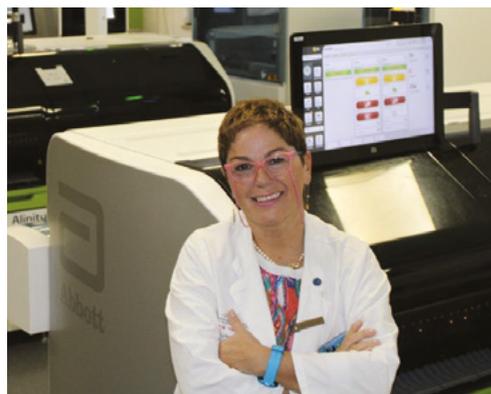
My advice for laboratory medicine specialists is: don't lose contact with your patients and clinical doctors! Continuous and proactive engagement will make your profession more valuable, more motivating, more beautiful and more exciting.

Do you have some hobbies? What are the things outside of your work that you are passionate about? How do you like to spend your free time?

Of course, I also have my hobbies, but unfortunately, professional and family obligations have left me very little time to practice them. After I retire, I hope to have more opportunities to travel, follow some of my artistic passions, such as music or photography, and spend more time with my beloved daughter.



EFLM Conference



Central Laboratory, University Hospital Centre "Mother Teresa"



Coffee with Antonio Buño Soto, President of the Spanish Society of Laboratory Medicine SEQCML



Could you briefly introduce your society? When was it founded, who can become a member, activities of your society, what has been done so far and future activities, projects, and plans?

The Spanish Society of Laboratory Medicine (SEQCML) was founded in 1976 under the name of the Spanish Society of Clinical Chemistry to bring together Clinical Laboratory professionals and develop a series of activities that would facilitate scientific exchange in this area. In 1994 changed its name to the Spanish Society of Clinical Biochemistry and Molecular Pathology. Its current name, the Spanish Society of Laboratory Medicine dates from October 2016. SEQCML headquarters is located in Barcelona and in 2017 an office was opened in Madrid.

It is led by a Board of Directors supported by a Managing Board (with a structure similar to that of IFCC). The Managing Board is composed of the Chairs of five Committees, representatives of other areas of activity, and two board managers. In addition to the members of the Board of Directors, the Managing Board, and the five Committees, more than 300 SEQCML members are actively engaged in 28 working groups. Currently, we have more than 2,950 members.

The SEQCML is an active member of the International Federation of Clinical Chemistry and Laboratory Medicine (and the European Federation of Clinical Chemistry and Laboratory Medicine (thirty-seven members act as SEQCML representatives in the two institutions), whereas other members represent us in other organizations such as the Federation of European Societies on Trace Elements and Minerals, The Clinical Laboratory Standards Institute, The International Council for Standardization in Hematology and the European Organization for External Quality Assurance Providers in Laboratory Medicine (EQALM).

As a Scientific Society, the SEQCML holds a large number of training activities with Courses, Conferences, Symposia, Web seminars, Lifelong Education Programs, Congresses, etc. As an example, the online continuing education program offered this year 6 courses using the moodle platform with almost 2,500 attendees worldwide. In 2021 we launched the

“Academia SEQCML” project to merge many of the education activities using an advanced professional virtual platform. This year 16 activities have been organized with more than 2,000 participants. We also facilitate access to the EFLM Academy for our members (we pay for it) to take advantage of its access. The SEQCML has a Foundation named the “Jose Luis Castaño SEQC Foundation” for the Development of Laboratory Medicine (www.fundacionjlc.es) whose founding mission is to develop, promote, sponsor, and disseminate activities related to professional education training, research, and technological development in Laboratory Medicine. Every year this Foundation offers a variety of grants and awards, valued at more than 100.000€ mainly directed to residents and young scientists.

We also organize External Quality Assurance Programs that were launched 40 years ago with an extensive portfolio that covers 60 inter-laboratory comparison programs some of them accredited by ENAC under the UNE-EN ISO/IEC 17043, more than 360 magnitudes included, more than 700 laboratories participants and more than 8,500 registrations.

Another outstanding activity was the launch of our new scientific journal, *Advances in Laboratory Medicine*, the official journal of our society. Is an open-access journal published quarterly both in Spanish and English. Recently we received the good news that has been indexed in PMC and Scopus and very shortly it will be accepted at Clarivate too.

The Spanish spoken of labtestonline website is managed by us (www.labtestonline.es). This year we made a big effort to move into a new platform that relies on our Society and is no longer dependent on the US webpage. In 2022 we were averaging 620,000 website hits per month from many different countries. This is an extremely valuable resource for us to reach out to many laboratorians, doctors, patients, and citizens around the world.

Last year we published the first White Paper on Laboratory Medicine in Spain or any other Spanish-spoken country. The purpose was to draw a picture of the situation, review deeply the landscape of our profession, and guide for overcoming the limitations identified.

Another strategic line of our Society is to establish alliances with many stakeholders and especially with Scientific Societies. More than 14 were signed in the past years and some consensus documents have already been published.

We are also very active in communicating to raise awareness of the role of the clinical laboratory among healthcare professionals and the general public. To this end, a Communication Committee manages the messages issued by the Society and acts as a liaison with the media. The Society has profiles on Twitter, Facebook, LinkedIn, and Instagram, and this year more than 140 communications in social media have been published.

The current Board launched 3 years Strategic Plan (2022-2024) with 9 strategic lines, 26 projects, and more than 50 specific actions that will guide us in this triennium.

In our pursuit to provide the best service to our members, the SEQCML has designed a Strategic Plan that outlines a set of primary courses of action. Our goal is to lead the field of Laboratory Medicine in our country over the medium and long term.

What are your suggestions for better education? Is the current education in your country fit for the purpose? Do you have a core curriculum for the training of medical biochemistry professionals?

In our country, specialized training in Clinical Analysis or Clinical Biochemistry can be accessed from 4 degrees: Medicine, Pharmacy, Chemistry, or Biology. There is a 4-year regulated training program where residents are trained in all disciplines of Laboratory Medicine. For years we have been trying to get the Ministry to approve the merger project of the two specialties, given that in daily practice there are almost no differences between the two. But I'm afraid we still have work to do on this. To have better training, I believe that the key is to have an adequate mixture of passion or vocation for what we do, in a way that allows us to have motivation, continuous effort in day-to-day work, and sufficient humility to recognize our limitations and deficits. There are many opportunities at the moment to be able to train both nationally and internationally. Perhaps not all of the same quality, but I don't think the problem is a lack of resources. You have to get to enjoy learning. Our profession is almost unlimited in terms of knowledge and that for me is something very attractive and enriching.

In what direction do you see the laboratory medicine heading? What do you think about the position of the laboratory specialist to increase their visibility within the healthcare system? What challenges do you and your colleagues face?

I believe that Laboratory Medicine needs to work in a more integrated way while requiring greater specialization. Both concepts may seem antagonistic, but in my opinion, they can be complementary. Advances in automation and the growing integration of laboratories have meant that different disciplines can be resolved in the analytical phase in a more integrated way. Needless to say, the extra-analytical phases (pre and post) must be common for the different areas or specialties of laboratories, or at least they should be. But on the other hand, the advancement of scientific knowledge makes it necessary for highly specialized professionals in small sub-areas, almost in a few molecules. It is not easy to reconcile both needs, but we have to try.

Just as modern medicine has changed over the years and it is impossible to understand it without an interdisciplinary vision, the same thing happens in Laboratory Medicine. We have to fully integrate it with other medical specialties and make our knowledge count. In my experience, whenever I have had the opportunity to work with my colleagues from other clinical specialties, the experience has been fantastic and very enriching. And in addition to learning from them and their needs, it has allowed me to teach the contribution that we can make from the laboratory to help improve patient management.

We know that we do not work in front of the patient in most of our day-to-day, we work with their biological samples. That makes it more difficult for patients to learn about our work. That is why we also need to make laboratory medicine visible to citizens, patients, and society in general. More difficult does not mean impossible and we have to work on it. In our society, we believe that the labtestonline website can be a perfect tool to achieve this purpose. We also want to be able to carry out a campaign to improve the humanization of our work, again focused on improving the quality perceived by our patients.

Do you think medical biochemistry professionals are ready for emerging technologies such as Digitalization, Laboratory Diagnostic Algorithms, AI, ML, Integrative Diagnostics, and Big Data? Do you believe in the Partnership model for efficient integration and adoption of emerging technologies and innovations?

It is true that in the laboratory we have extensive experience in working with information systems and database management in general. This should position us prominently to be able to integrate these new technologies into our work or even more, to be able to lead their incorporation in our hospitals. Although this knowledge is already acquired in the training of our young professionals, I believe that there is still much work to be done. This is very stimulating and we have, as I said, a great opportunity to lead its use, not only aimed at improving internal laboratory processes but above all to improve patient care adding clinical value to our reports.

Any initiative that can be beneficial for us should always be well received. This includes the search for synergies with partnership models between different hospitals, in vitro diagnostic companies, or universities, among others.

Do you think your society members participate and/or contribute enough to EFLM activities? Do they know the advantages to be an EFLM Academy membership, for example, the unique educational resource "Syllabus course", free attendance to the recently held 3rd EFLM Strategic Conference, its sessions were recorded and are available for one year?

In our Society, we have 17 members working for different EFLM groups. One of them is even a member of the Board, Dr. Fernández Calle. We can always do more, but for years we have indeed wanted to promote the participation of our members in international groups, EFLM included. We also do an annual follow-up of their contribution and whenever we can we financially support their participation.

But the opportunity that I remember where we have recently had the greatest collaboration with the EFLM was in the organization of the last Euromedlab 2019 Congress. An incredible opportunity for us and certainly for me to learn from the European Federation and to be able to interact with many colleagues from European countries. I believe helped to make the SEQCML more visible in Europe and to make the EFLM better known among our members.

Regarding the EFLM Academy, since last year we have invited all our members to participate in it, and from the society we make a group registration paying the fee ourselves. This year almost 650 members of our NS became also members of the EFLM Academy. We explain to them the great advantages of accessing 6 leading journals, CLSI documents, electronic books, online courses, and the Syllabus course, ... and we encourage them to register. For very little money (which they do not pay) they have a long list of resources at their disposal. We are aware that language, unfortunately, continues to be a barrier for some of them.

What do you think about the ongoing and recent EFLM activities/initiatives? Do you have suggestions to increase communication and cooperation with EFLM? What do you like and dislike about EFLM?

EFLM has gained over the years great prominence among European professionals related to Laboratory Medicine and



also worldwide. I think it is a very active organization and offers us a wide variety of opportunities and resources for continuous training. Communication has also improved considerably and it has become closer to professionals. It is more visible and transparent and that is always appreciated.

Instead of dislike, I prefer to consider the question as things that can be improved, to give a positive approach. I trust in communication and human relationships. Even though this has improved, more interaction with national societies will be appreciated. Also, research initiatives at a multi-country level could be beneficial for all of us. Analyzing interaction with other clinical societies at a European level (guidelines, task forces, working groups) should be in the scope of the European Federation. Expanding the ongoing standardization and harmonization activities in Laboratory Medicine is another potential area for improvement. Additionally, increasing coordination with the IFCC in terms of training, working groups, or research initiatives could also be positive. As a final idea, I believe initiatives that can support Laboratory Medicine in less developed countries of other continents as well as in Ukraine with its current undesirable situation will be well received.

Some Personal questions...

Please introduce yourself with a few sentences.

My name is Antonio Buño and live in Madrid with my wife Esther, a basic pillar in my life, and our two daughters Patricia and Cristina. I studied Medicine at the Universidad Autonoma of Madrid and specialized in Laboratory Medicine at La Paz University Hospital, also in Madrid and since then I have worked there, a hospital that for me is my true second home. I hold a Ph.D. in renal lithiasis since 1999 and currently I am the head of the Laboratory Medicine Department and I have been also honored with the privilege to serve the Spanish Society of Laboratory Medicine (SEQCML) as its President.

In your professional career, you have served in many leading roles both in your country and internationally. What was your motivation?

I am passionate about medicine and I am convinced that from the perspective of the clinical laboratory we can contribute a lot to benefit patient care. That is why it is the patient in the broadest sense of the word who provides me with the greatest

motivation. I also think I am a very vital and optimistic person who always tries to find opportunities in the face of adversity and I don't think I have a conformist spirit. There are always opportunities for improvement. But above all, I enjoy my job and I feel privileged to have the opportunity to work in what I chose, in an outstanding center, with a great team (for me the best possible) and close to my home. Is anything better possible? And in addition, I have the opportunity to positively influence Laboratory Medicine at a national level with my current position in the national society together with superb board members and wonderful colleagues who work in the society office and who are the soul of it.

Could you share your way in biochemistry? Why did you choose this field? What do you like about your current job? Do you think that you chose the right job for you? If you have another chance???

Although I admit that during my degree in Medicine biochemistry (first year) was never on my favorites list, I decided to specialize in the laboratory because the diagnosis of diseases based on their pathophysiology always caught my attention. I was not only trained in biochemistry, but also other laboratory disciplines like hematology, microbiology, and immunology. That gave me an open and versatile vision.

One of the things I like most about my job is the possibility of interacting with colleagues from many medical specialties, being able to learn from them, understand their needs, and have the opportunity to contribute Laboratory Medicine knowledge to them for the benefit of patients.

I would definitely go back to study medicine. My eldest daughter is in the last year of her Medicine degree and I still enjoy refreshing my knowledge by reviewing her doubts, clinical cases and her exams. The youngest is studying Biotechnology and I also enjoy going over doubts and practices with her. As a lab professional, I feel like I'm in the middle of both. Despite all the difficulties Laboratory Medicine has faced in the past, I remain optimistic about its future and recommend it as a career path.

What would be your advice to young scientists who wish to pursue their career in laboratory medicine?

My first piece of advice would be to enjoy what you are doing and be passionate about it. They must find motivation in their daily work and enjoy studying as a tool for continuous improvement. Another big source of motivation is the patient as the ultimate goal of their work. Humility and effort are the other two basic ingredients for their success.

Fortunately, young scientists are becoming better prepared and have many opportunities to train and grow as professionals. For those of us who are not so young, I think we commit to continue providing them with these opportunities, to instill in them a passion for this profession, and to help them in any way we can. That's how they did it to me at the beginning and I think I have a moral obligation to do the same with those who will come after us.

Do you have some hobbies? What are the things outside of your work that you are passionate about? How do you like to spend your free time?

I like sports. From a very young age, I have practiced many but without a doubt, the one I like the most is playing tennis, although in recent years I have not dedicated much time to it. I try to spend most of my spare time with my wife, family, and friends. I am a fan of the Real Madrid soccer team too and lately I have been enjoying the good streak it has had in recent years. And I also really enjoy traveling, and I love discovering new places and interacting with people. It is a very enriching experience. In recent years I am starting to have fun while learning to cook. My family says I'm not bad at it (I think they love it) although I still have a lot to learn.



EuroMedLab 2019 with colleagues



Peru 2019



With my wife



Lanzarote 2020



Mallorca 2021



Real Madrid stadium



Coffee with Nada Majkić-Singh, National Representative and Executive Director of the Society of Medical Biochemists of Serbia



Could you briefly introduce your society? When was it founded, who can become a member, activities of your society, what has been done so far and future activities, projects, plans?

At the sixth plenum of the Federation of Pharmaceutical Societies of Yugoslavia (SFDJ), which was held on May 15, 1955 in Split, a decision was

made to establish a Section for Medical Biochemistry in the Federation of the Pharmaceutical Society of Yugoslavia (SFDJ). The Section for Medical Biochemistry of the SFDJ was renamed to the Association for Medical Biochemistry of the SFDJ, based on the decision of the XVI Plenum of the SFDJ, which was held on May 15, 1965 in Banja Luka. Accordingly, based on the decision of the Association of the Medical Biochemists of Yugoslavia (DMBJ) made on April 6, 1995, based on historical data, May 15th was established as the Day of the Society of Medical Biochemists of Yugoslavia.

The first professional and scientific meeting of medical biochemists of the Yugoslavia was held from 13 to 16 October 1955 in Zagreb. The meeting was attended by 120 members with 50 professional and 4 organizational reports. Each new congress represented new quality and visible progress in the development of the profession.

Since the very formation of the International Federation of Clinical Chemists (IFCC) at UPAC, medical biochemists from our country have been actively working towards membership in this organization. A significant role in all activities was played by Prof. Dr. Marijana Fischer-Herman and Primarius Tatjana Plečaš-Drljača, who was also the first president of DMBJ in two mandate periods from March 13, 1965 to 1973. During her tenure, in May 1971, DMBJ became the 28th member of the IFCC. Tatjana Plečaš-Drljača announced this important news while welcoming the participants of the III DMBJ Congress, which was held in Bled in 1971.

The Association of Medical Biochemists of Yugoslavia was re-registered in 1991 as the Society of the Medical Biochemists of Yugoslavia (SMBJ) with members medical biochemists from whole Yugoslavia, that latter on due the situation in Yugoslavia this Association changed the name to the Society of Medical Biochemists of Serbia (SMBS). Three types of SMBS membership are possible: regular, honorary and associate. Membership in SMBS is voluntary, and admission to membership is decided by the Executive Board of SMBS. Regular membership is achieved by active medical biochemists. Honorary membership can be held by retired medical biochemists, as well as individual persons, meritorious organizations or related associations from the country and abroad, which is decided by the SMBS Executive Board. Associate membership can be achieved by companies or persons representing them, who have a business interest in permanent cooperation with SMBS. SMBS members can also be students.

Each member of SMBS participates equally in the activities and achievement of the goals and tasks established by the Statute through appropriate forms of company work or directly. SMBS members are obliged to protect the reputation of society and their profession by adhering to the Code of Ethics for Health Care Professionals as well as other related ethical rules. Members are obliged to direct their activities towards the achievement of the basic goals and tasks of the company, established by the Society Statute.

Activity of our Society is in many field, first of all the cooperation with international associations and participation in international professional and scientific gatherings; Cooperation with pharmacy and medicine student organizations; making proposals for teaching programs for Pharmacy and Medicine studies; Nomination of prominent members of the Society for social awards and decorations; the best graduated students of the Faculty of Pharmacy and other deserving persons; Nominating prominent members of the Society for the Serbian Academy of Sciences and Arts and other professional scientific institutions; The publishing activity of the Society, which takes place through the publication of scientific and professional magazines, supplements, various publications and brochures; Collection of historical material from the fields of medical biochemistry, pharmacy and medicine; Collection, security, preservation and use of library material, especially in the field of health and related sciences; Performing other tasks in the pursuit of the Society goals and objectives. All these activities are publish first of all in books: Development of Medical Biochemistry in Yugoslavia (1996), Serbian Medical Biochemistry in the 21st Century – 70 years later (2015), Scientific Foundation "Professor Ivan Berkeš" (2021), Professional Activities of Serbian Laboratory Medicine Specialists in Balkan Region (2022) and Journal of Medical Biochemistry.

What are your suggestions for better education? Is the current education in your country fit for the purpose? Do you have a core curriculum for the training of medical biochemistry professionals?

Medical biochemists in Serbia are educated by five years Faculty studies, three year of health specialization in medical biochemistry, and also who is interested can finished doctoral studies. Five years Faculty education programme is established in 1986 at Pharmaceutical Faculty, University of Belgrade. However

education of medical biochemists exists since 1947. The aim of the SMBS is to bring together medical biochemists for the purpose of improving and developing all branches of medical biochemistry in health care. The Society's tasks consist in harmonizing work standards in clinical-biochemical laboratories, educating medical biochemists at all levels of education, encouraging scientific-research work, determining work norms and enforcing the application and observance of the code of ethics of healthcare workers. SMBS proposes established standards in the field of medical biochemistry to the appropriate institutions of the Republic of Serbia. The task of the Society is to facilitate the exchange of experiences of its members with members of related organizations in the country and abroad.

The education activities include:

Unification of activities of members of society and all forms of work in SMBS; Participation in the study and monitoring of the health care system and the organization of the work of the health service while proposing measures for their improvement; organization of congresses, symposiums, seminars and other professional and scientific gatherings in cooperation with health institutions, faculties, Ministries of Health and Science, Chamber of Biochemists of Serbia, etc. Encouraging scientific and research work in all fields of medicine, biochemistry and other related sciences, especially taking into account the young members of SMBS; Direct cooperation and giving opinions to competent authorities on proposed laws and normative acts, which regulate issues of health care, health activities and the organization of health services;

In what direction do you see the laboratory medicine heading? What do you think for the position of the laboratory specialist to increase their visibility within the healthcare system? What challenges do you and your colleagues face?

In order to improve the profession, SMBS in the country cooperates with related associations and organizations and faculties of the medical profession especially with the Chamber of Biochemists of Serbia, as well as other health chambers and organizations. For the same purpose, the Society cooperates with the Ministries of Health and Science of the Republic of Serbia. In accordance with the goals and tasks of SMBS and scientific and professional issues of medical biochemistry, the Society regularly organizes congresses, Biochemistry days and thematic conferences. Congresses of SMBS are organized as a rule every other year. The Executive Committee determines the venue of the Congress, as well as the composition of the Scientific and Organizational Committee. Every year, Biochemistry Days are organized with a school of biochemistry, usually in a different regional part of the country. SMBS can, according to the needs of the profession, organize thematic conferences or symposiums on specific issues of professional and scientific work. Up to now the Society organized twenty two national congresses, three BCLF Congresses and 15 BCLF Meetings for Balkan Region. All these activities improved the position of the laboratory specialist and increase their visibility within the healthcare system in Serbia.

Do you think medical biochemistry professionals are ready for the emerging technologies such as Digitalization, Laboratory Diagnostic Algorithms, AI, ML, Integrative Diagnostics, Big Data? Do you believe in Partnership model for efficient integration and adoption of emerging technologies and innovations?

During education our students getting very much knowledge from digitalization, integrative diagnostics, laboratory diagnostic

algorithms and all other necessary innovations, so I think that in this field we have continue with new technologies and innovations. I have to tell that in some case our students know much more than their professors about this innovations.

Do you think your society members participate and/or contribute enough to EFLM activities? Do they know the advantages to be EFLM Academy membership, for example, the unique educational resource "Syllabus course", free attendance to the recently held 3rd EFLM Strategic Conference, its sessions were recorded and are available for one year?

SMBS is a member of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC), which is an international organization for the field of clinical chemistry (in our country known as medical biochemistry), the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM), as well as the Balkan Federation of Laboratory Medicine (Balkan Clinical Laboratory Federation – BCLF).

The aim of the SMBS is to bring together medical biochemists for the purpose of improving and developing all branches of medical biochemistry in health care. The Society's tasks consist in harmonizing work standards in clinical-biochemical laboratories, educating medical biochemists at all levels of education, encouraging scientific-research work, determining work norms and enforcing the application and observance of the code of ethics of healthcare workers. SMBS proposes established standards in the field of medical biochemistry to the appropriate institutions of the Republic of Serbia. The task of the Society is to facilitate the exchange of experiences of its members with members of related organizations in the country and abroad. Many our medical biochemists are member of EFLM Academy, and also we follow Syllabus courses.

This activities include: Unification of activities of members of society and all forms of work in SMBS; Participation in the study and monitoring of the health care system and the organization of the work of the health service while proposing measures for their improvement; Organization of congresses, symposiums, seminars and other professional and scientific gatherings in cooperation with health institutions, faculties, Ministries of Health and Science, Chamber of Biochemists of Serbia, etc.; Encouraging scientific and research work in all fields of medicine, biochemistry and other related sciences, especially taking into account the young members of SMBS; Direct cooperation and giving opinions to competent authorities on proposals.

What do you think about the ongoing and recent EFLM activities/initiatives? Do you have suggestions to increase communication and cooperation with EFLM? What you like and dislike about EFLM

This recent activities of EFLM include help us in field of: Unification of activities of members of society and all forms of work in SMBS; Participation in the study and monitoring of the health care system and the organization of the work of the health service while proposing measures for their improvement; Organization of congresses, symposiums, seminars and other professional and scientific gatherings in cooperation with health institutions, faculties, Ministries of Health and Science, Chamber of Biochemists of Serbia, etc.; Encouraging scientific and research work in all fields of medicine, biochemistry and other related sciences, especially taking into account the young members of SMBS; Direct cooperation and giving opinions to competent authorities on proposals.



During our long membership in EFLM we like all activities as first of all our National Congresses (XXII), Balkan Symposia and other Meeting have been organized under EFLM Auspices.

Some Personal questions...

Please introduce yourself with a few sentences.

I am born in 1947 in Majkić Japra, Bosnia and Herzegovina. I graduated from the Faculty of Pharmacy in Belgrade in 1969, received her master's degree in 1972, and received doctorate in 1974. I worked at the Faculty of Pharmacy in Belgrade since 1971 in all teaching positions and I am a specialist in medical biochemistry. I have been the Director of the Institute for Medical Biochemistry of the Faculty of Pharmacy in Belgrade (from 1984 to 1995). In the field of medical biochemistry, I improved post-graduate and doctoral studies at the Department of Medical Biochemistry of the Faculty of Pharmacy under the direction of prof. Dr. Ivan Berkeš. In this field I got experienced as well as in England (1972) at the London Polytechnic School (North-East London Polytechnic School) and at the University of Newcastle, at the Institutes for Clinical Biochemistry and Experimental Biology (University of Newcastle upon Tyne, Newcastle University Hospital, Department of Clinical Biochemistry). I participated in the performance of undergraduate, postgraduate and specialist teaching at all levels of education in the field of medical biochemistry and particularly involved in the formation of the medical biochemist profile, which today is carried out according to the modern program within the five-year studies at the Faculty of Pharmacy, as well as the modernization of the specialization program in medical biochemistry. I wrote 20 textbooks in the field of medical biochemistry (www.dmbj.org.rs). At the invitation of the Institute for Publishing Textbooks of Serbia, I wrote two textbooks for secondary medical school in the field of medical biochemistry, which have been taught for many years. The main areas of my research work are clinical enzymology, genetic polymorphism, the influence of drugs on the level of clinical-biochemical parameters, the role of biologically active proteins in metabolic processes and the standardization of certain clinical-biochemical methods and managed a number of research projects. Most of the research results have been published in leading international journals in the field of clinical biochemistry and enzymology. The results of this is published over 350 scientific and professional papers (100 in domestic; 140 in international and 110 in leading international journals) and 350 announcements at domestic and international congresses in the field of medical biochemistry. I held over 50 introductory, plenary lectures. In the Association of Medical Biochemists of Yugoslavia, organized fifteen congresses of medical

biochemists of Yugoslavia (that is, Serbia), three Balkan meetings of laboratory medicine and several Biochemistry Days. I am the founder of the Scientific Conference "Professor Ivan Berkeš" and the Scientific Fund "Professor Ivan Berkeš", which annually awards the most successful students of the Faculty of Pharmacy, Masters of Pharmacy-Medical Biochemists and Masters of Pharmacy. Also I am founder of the international symposium "EFLM Symposium for Balkan Region", which is held under the auspices of IFCC and EFCC every year in Belgrade with topics dedicated to the latest findings in laboratory medicine. So far, 16 Symposia have been held in which the world's most famous experts in the field of medical biochemistry and laboratory medicine participated.

In your professional career, you have served in many leading roles both in your country and internationally. What was your motivation?

Starting in 1986, I with colleagues have been involved in the formation and organization of the unified clinical-biochemistry service at the Clinical Center of Serbia, which grew into the Institute for Medical Biochemistry, as a reference laboratory service in Serbia and Yugoslavia. Under my leadership, in 2000, a quality management system according to the ISO 9001:2001 standard and accreditation according to the ISO 17025 and ISO 15189 standards were introduced for the first time in our country in the laboratories of the Institute of Medical Biochemistry. The Institute also implements a national program of external quality control of all laboratories in country, known as SNEQAS-medical biochemistry.

I have been the president of the Board of Directors of the Institute of Pharmacy of Serbia (1993-2003), as well as the first President of the Assembly of the Pharmaceutical Chamber of Serbia (from 1997 to 2001). Also I am the initiator and founder of the Chamber of Biochemists of Serbia. I have been the president of the Supervisory Board of the Institute for Blood Transfusion of Serbia from 2009 to 2012. She was the president of the Medical Biochemistry Section of the Pharmaceutical Society of Serbia (1983-1987), the President of the Society of Medical Biochemists of Yugoslavia (now the Society of Medical Biochemists of Serbia) since 1988 up to 2012. and a National Representative in the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC), the European Federation of Clinical Chemistry and Laboratory Medicine, EFCC, and the Balkan Clinical Laboratory Federation (BCLF).

From the moment I realized how important medical biochemistry is in the health service, I decided to do everything to bring it to the world level in our country, to the nearest doctors and patients.

Could you share your way in biochemistry? Why did you choose this field? What do you like about your current job? Do you think that you chose the right job for you? If you have another chance???

I have described in details my path in the field of medical biochemistry from the very beginning to the present day and the reasons why I decided to work in this field until now. As I have been retired since 2012, I describe here that I am still engaged in medical biochemistry and the activities that I did before. Since October 1, 2012, I am the Executive director of the Society of Medical Biochemists of Serbia. I am the Editor-in-Chief of the Journal "Jugoslovenska Medicinska Biohemija" (now Journal of Medical Biochemistry) since 1991, during which period this

Journal became international. I am member of the Editorial Board of the Journal Clinical Laboratory and a reviewers in several international journals. From 1994 to 2003, I has been the president of the Federal Commission for Medical Biochemistry, as well as the Republic Commission for Medical Biochemistry and Clinical Biochemistry, and from May 1992, the president of the Commission for Primaries of the Pharmaceutical Society of Serbia. In our country, I am member of the Society of Medical Biochemists of Serbia, the Pharmaceutical Society of Serbia and the Scientific Society of Serbia. Abroad, I am a member of the International Society of Clinical Enzymology, the American Association of Clinical Chemistry, the International Federation of Clinical Chemistry, the European Federation of Clinical Chemistry and Laboratory medicine (European Federation of Clinical Chemistry and Laboratory Medicine), English Association of Clinical Biochemists (English Association of Clinical Biochemists), New York Academy of Science (New York Academy of Science), Canadian Society of Clinical Chemists (Canadian Society of Clinical Chemists) and Federation of Balkan Clinical Laboratories. Among the professional recognitions, I received the Diploma of the Association of Pharmaceutical Societies (1988) and the Diploma of Medical Biochemists of Yugoslavia (1995 and 2015), as well as the Honorary Diploma of DMBS, and the Great Golden Charter of the Unique Maintenance for Quality (JUSK, 2010), the Diploma of the Greek Society for Laboratory Medicine for development of the profession in the Balkan Region and beyond, as well as a number of other various recognitions.

What would be your advice to young scientists who wish to pursue their career in laboratory medicine?

Only great dedication and work can contribute to success in the field of medical biochemistry and thus serve to improve the health of the nation.

Do you have some hobbies? What are the things outside of your work that you are passionate about? How do you like to spend you free time?

Unfortunately I have no very much free time. However, I share my love with my family and especially with my two grandsons Strahinja and Philip. But long life my love going to the cats and flowers. They are my hobbies. I like very much the book "Especially a CAT" from Doris Lessing, Nobel Prize winner in 2007.





Coffee with Milena Velizarova, National Representative and National Society President of the Bulgarian Society Clinical Laboratory



Could you briefly introduce your society? When was it founded, who can become a member, activities of your society, what has been done so far and future activities, projects, plans?

The Bulgarian Society of Clinical Laboratory (BSCL) was founded in 1961 by its first president Prof. Dr. Jordan Todorov. Members are medical

doctors, biologists, clinical chemists, residents and laboratory technicians. Our efforts are also aimed at involving corporate members from our industry partners.

The main purposes of BSCL are to lead, to coordinate and to assist in the development of research and applied activities in the field of laboratory medicine and to maintain a high level of professional qualification. With the aim of ensuring good laboratory practice and improving the healthcare system in the Republic of Bulgaria, BSCL participates in the compilation of diagnostic algorithms, laboratory standards and professional consultations.

Traditionally, BSCL organizes with great enthusiasm annual National Clinical Laboratory Conference with international participation. This activity is a good way to seek dialogue with other professionals in the field and shape new initiatives, relevant to our aims. Scientific programs encompass a vast spectrum of topics in laboratory medicine.

BSCL is a founding society and an active member of Balkan Clinical Laboratory Federation (BCLF), a regional organization which includes all the Balkan countries. The management of the BCLF board is on a rotating basis, with the current president being Prof. Dobrin Svinarov, past president of BSCL. BSCL is a full member of EFLM and IFCC.

What are your suggestions for better education? Is the current education in your country fit for the purpose? Do you have a core curriculum for the training of medical biochemistry professionals?

The education in the specialty of clinical laboratory in Bulgaria is strictly adhered to the European Federation of Clinical Chemistry and Laboratory Medicine syllabus for postgraduate education and training in all of the topics with the exception of Microbiology, Blood Transfusion and Genetic Analysis. Our education needs to focus on the current and future challenges of our profession considering the need of harmonization between regulatory authorities, evidence-based laboratory medicine and the ultimate demand for the introduction of advanced and integrative diagnostics increasing the visibility of medical laboratories as a first line healthcare provider. BSCL encourages our colleagues to take advantage of the opportunities offered by the EFLM Academy and to attend future IFCC-EFLM Congresses.

In what direction do you see the laboratory medicine heading? What do you think for the position of the laboratory specialist to increase their visibility within the healthcare system? What challenges do you and your colleagues face?

The role of the laboratory specialist is essential in the rapidly rising levels of biomedical and clinical evidence to inform clinical practice. Laboratory medicine provides about 70 percent of the objective information needed for clinical decision making. Consequently, the provision of a high quality laboratory medicine service is the primary responsibility of every professional, working in that field. At a time of economical pressure on healthcare, laboratory medicine specialists face the growing challenge of delivering a modern service that is both clinically efficient and cost-effective. The importance and true impact of laboratory medicine can also be increased by adding value to laboratory tests represented by influencing diagnostic accuracy, patient management and related clinical outcomes. Considering that technological transfer in our discipline places all medical laboratories on common rails, we face as a major challenge to integrate all medical laboratory activities into the common specialty of laboratory medicine and thus to overcome the existing plethora of over a 1000 laboratories in our country. By merging, a significant reduction of the number of laboratories will be achieved with simultaneous introduction of highest standards of practice and accreditation according to ISO 15189, which is still a task ahead to be accomplished.

Do you think medical biochemistry professionals are ready for the emerging technologies such as Digitalization, Laboratory Diagnostic Algorithms, AI, ML, Integrative Diagnostics, Big Data? Do you believe in Partnership model for efficient integration and adoption of emerging technologies and innovations?

Novel technologies such as artificial intelligence and machine learning have a vast and exciting application as far as the augmentation of laboratory medicine is concerned. Additionally, in parallel with the increasing number and variety of medical tests, it is estimated that the number of data, generated in the evaluation of a patient will increase exponentially. Laboratory specialists are working hard to meet these challenges but currently we are not prepared for them. The Ministry of Health is introducing a new e-healthcare system with a lot of benefits. The electronic health records will provide valuable information about the patients and will undoubtedly increase the effectiveness of medical services.

Do you think your society members participate and/or contribute enough to EFLM activities? Do they know the advantages to be EFLM Academy membership, for example, the unique educational resource "Syllabus course", free attendance to the recently held 3rd EFLM Strategic Conference, its sessions were recorded and are available for one year?

First of all, my colleagues (medical doctors and specialists in laboratory diagnostics) highly appreciate the active high level



ensuring a high level of quality. My colleagues also share the opinion that scientific webinars are extremely interesting and helpful. My colleagues and I have registered in almost all of them and they are scheduled in our busy calendar. and last but not least, I would like to mention EFLM syllabus again with respect to all lecturers. Personally, I find the syllabus very useful in conducting postgraduate training courses.

Some Personal questions...

Please introduce yourself with a few sentences.

I am married and have two grown children. My daughter is a medical student at the Medical University of Sofia, while my son is in the upper years of high school. Time spent with them is becoming less and less but I try to enjoy every stolen hour together, every spontaneous free weekend.

In your professional career, you have served in many leading roles both in your country and internationally. What was your motivation?

I'm currently working at the Medical University of Sofia and the University Hospital "Alexandrovka" as Associate Professor and my duties include research, teaching and medical practice in the field of Laboratory Medicine. One of the most important reasons for increasing my motivation is related to teaching students who are always reading, questioning and seeking new knowledge and opportunities. My research activities and achievements are in the field of laboratory haematology, coagulation analyses, cytogenetic and molecular analyses. In parallel, a large part of my time is occupied with my work in the laboratory, where I am directly involved in the processes of the laboratory haematology sector. What excites me most is the follow-up of abnormal laboratory findings, important to determine the correct patient's diagnosis. Naturally, I also trust and rely on my colleagues who are true professionals. I am currently the elected President of the Board of the Bulgarian Society of Clinical Laboratory.

Could you share your way in biochemistry? Why did you choose this field? What do you like about your current job? Do you think that you chose the right job for you? If you have another chance???

Honestly speaking, the Clinical laboratory field was my second choice. The first one was Obstetrics and Gynecology, but my decision changed under the influence of a colleague of mine who with great enthusiasm used to tell me in details about the research opportunities in laboratory medicine. I am extremely happy with my choice because I work and develop my career with an unceasing desire.

What would be your advice to young scientists who wish to pursue their career in laboratory medicine?

I always try to encourage young colleagues to perform at their best. Winning recognition as a laboratory specialist is a difficult process; everyone's carrier relies not only on personal qualities but also on working in a team. Therefore, I encourage them to be consistent in their actions, in their knowledge and never give up making effort, despite the difficulties. Some of them are worried about the widespread adoption of automation and artificial intelligence which could make them redundant as specialists. In my opinion, as personalized medicine develops, the importance of the physicians and medical professionals will even become more significant.

of work of all the EFLM working groups. We promote regularly any scientific events, projects and award calls by EFLM and IFCC on the internet page of BSCL and on social media. Despite having only a few participants from Bulgaria at the 3rd EFLM Strategic Conference, everyone mentioned the excellent level of the lectures. Congratulations to Prof. Tomris Ozben for making the virtual conference room freely accessible to provide mobility and accessibility for more participants.

We appreciate the hard work and professionalism of the "Syllabus course" lecturers. This is an amazing initiative, aimed at a harmonization of education and ensuring a higher scientific and practical level of the laboratory specialists. Considering the excellent level of the lectures in all modules, it is our aim and effort significantly more colleagues from Bulgaria to join the course in 2023, especially those, preparing to acquire a clinical laboratory or clinical chemistry specialties. In addition, our society is very modestly represented in EFLM structures, compared to our potential to participate and to contribute.

What do you think about the ongoing and recent EFLM activities/initiatives? Do you have suggestions to increase communication and cooperation with EFLM? What you like and dislike about EFLM.

The EFLM gives plenty of opportunities for laboratory medicine community and especially for young scientists to improve their knowledge and skills. We highly appreciate the active position of all hardworking group members and their huge efforts in preparing guidelines on specific topics. These established recommendations are extremely important for our routine work at the laboratory, for validating new methods and





Do you have some hobbies? What are the things outside of your work that you are passionate about? How do you like to spend your free time?

I am passionate about activities such as ballroom and salsa dancing... This is my hobby and it relaxes and satisfies me the most. I love travelling and seeing new places with my family and friends. I specifically assist in organizing all our trips, step by step. There are so many countries and beautiful places I would like to visit.

INTERVIEWS WITH SENIOR LABORATORY COLLEAGUES

Interview with Prof. Sverre Sandberg former President of EFLM and Director of the Norwegian Quality Improvement of Laboratory Examinations (NOKLUS)

Conducted by Michael Langlois, Chair of the EFLM Science Committee

In your professional career, you have served in many leading roles both in your country and internationally. What was your motivation?

My main motivation was to be able, in cooperation with skilful colleagues, to pursue science and professional things that I thought could be of value for the laboratory community

What was in it for you?

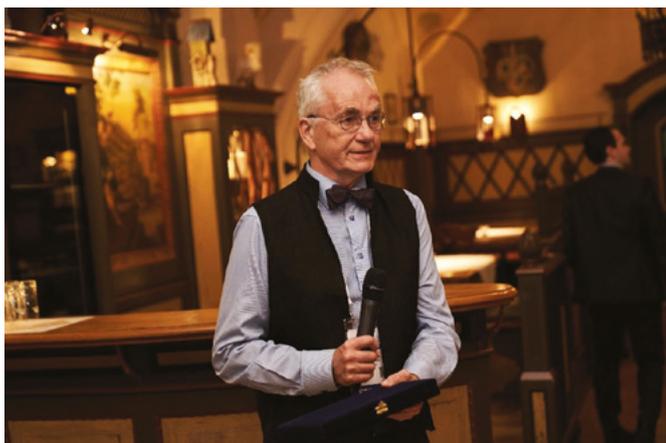
For me it was the satisfaction of being able to accomplish and promote matters that was important. Personally, it is also a fantastic privilege to get to know people and to develop friendship all over the world

If you would need to name a role that was most rewarding to you, what would it be?

It is indeed difficult. Professionally it is the role I have had in improving the study and evaluation of biological variation data as well as working with analytical performance specifications. In addition, the role I have now as president of the European Porphyria Network where we improve the diagnostics and develop evidence-based guidelines for treatment and monitoring of the porphyrias.

You were Chair of Science Committee and President of the Executive Board of EFLM. Your term of office as President was during 2016-2018. What were the greatest challenges during your EFLM engagement? How would you describe EFLM in those days?

As the first chair of the Science Committee, I had to establish most of the WGs that are now active in EFLM. The challenge is always to find the right person to lead these WGs. If you don't have the right person as chair, it will be difficult for the group to perform anything. The main challenge as EFLM president was to incorporate the EC4 register in EFLM. This is now the basis for the register used for the EFLM Academy. It was also a challenge, but extremely important and interesting, together with Mauro Panteghini, to organise the 1th EFLM Strategic conference on Analytical Performance Specifications. The importance was indeed not the conference itself, but that we were able to follow up all the initiatives in Task and Finish Groups which all made important contributions.



How do you see the future of EFLM?

The future of EFLM is dependent on the members of EFLM. They must choose the right leaders. EFLM is connected with IFCC. Nevertheless, it is, however, a “stand alone” organisation which must profile itself.

The EFLM Executive Board is composed of members voted by EFLM National societies, who come from different cultures, have different priorities, views and preferences. That is not the team you select, but you have to work with that team and manage all kinds of important projects, towards common European goals. Is it difficult to lead such a heterogeneous team? Could you describe your experience in the Board (and before that, the Science Committee) during your engagement?

I think that the most important by being a leader is to generate a “group” feeling to avoid personal disagreement and to get people to “walk in the same direction”. It is also important not to be stubborn, but to have an open mind to all proposals and suggestions. Don’t promote yourself, but give credit to the people who do the work.

Your main research interests and expertise are in porphyria, diabetes mellitus, external quality assurance, measurement uncertainty, biological variation, analytical performance specifications and evidence-based laboratory medicine. Could you name some major achievements, milestones and future challenges in these areas?

I think I have mentioned some major achievement and milestones above. I will just underline that most of these achievements are not due to myself, but to people that I have been extremely lucky to work together with. I could of course have mentioned many co-workers and friends. The process of working with these people has been extremely rewarding. Many of these people will be able to further develop the field.

Looking back to your professional career, do you think that you chose the right job for you? Would you have chosen another job, if you had had another chance?

I have no idea! My original intention was to work within astrophysics. Then I became an MD and have worked in general practice, neurology and internal medicine before working in the laboratory. All these jobs have been interesting to me. I think I could have found a lot of interesting jobs 😊.

The effect of climate changes is more and more obvious. How do they relate to our profession? Is there something we should be concerned about? How can we as a profession contribute in that respect?

I think the initiative with a Task Force for Green Labs are excellent, and I hope we really will able to pursue this important initiative. I also think we should work more to reduce unnecessary testing and choose wisely.

How do you like to spend your free time? Plans for the future?

What free time? Maybe listen flowers and raindrops and to the wind sougning through the trees.

For the end, as an expert and a senior colleague, what would be your advice to young individuals who wish to pursue their career in laboratory medicine? Is our education fit for the purpose? Is there something missing in our curriculum?

The advice is to do science and establish structures for what you think is important so that other people can carry on the work after you. And remember that people and friendship is often more important than what you achieve for yourself. For those who are not MDs, they should get some experience form clinical medicine to see the “real world”. Don’t hide in your office.





NEWS FROM EFLM FUNCIONAL UNITS

1st EFLM EuLabDay 2022: Lab Medicine to the front Public Health Scene

Reported by Tara Rolić, Chair, Bernard Gouget, Consultant, Evgenija Homšak, Member, Joao Faro Viana, Member of the EFLM Task Group European Laboratory Day

On November 5th 2022 the first annual European Laboratory Day was celebrated. The EFLM Task Group European LabDay invited all the EFLM members via the EFLM office, newsletters and social media posts to participate at the new awareness campaign and to start the tradition of organizing activities to promote the growing importance of laboratory medicine as an important and essential part of the diagnosis process and its central role in healthcare. The community of EFLM specialists in Lab medicine was encouraged at their national levels to contribute to a better understanding of our profession and its role in improving public health and patient care, driving innovation, and fostering health equity.

The purpose of EuLabDay activities is to make laboratory medicine more visible and recognizable, to meet patients, to inform the general public about the added value of lab medicine and the valuable contribution of the specialists of lab medicine and their technical staff to patient care. The specialist of lab medicine is often behind the scene and not so often recognize by the public. One reason could be the diversity of medical, pharmaceutical or scientific trainings as well as the different modes and specialties of exercise.

The aim of the first edition of the EuLabDay was to rise excitement about the profession. The general public typically does not see us as first-line responders in their healthcare experience. As professionals, it is our responsibility to change that. It is important to establish communication and to be proactive in education. Promoting and advocating the role of laboratory medicine is achieved by promoting EuLabDay on official EFLM social network posts with numerous likes and shares. With more than 3000 clicks our profession was noticeable. Moreover, laboratory professionals from Croatia, Czech Republic, Estonia, Italy, Poland, Portugal, Serbia, and Turkey prepared activities for children, laboratory tours, lectures for students and open-day activities. France contacted the association of patients, SFBC-YS broadcasted videos on the web and the medical biologists from the private sector, although on strike, have continued to collect samples and have been able to meet many patients and do prevention by recommending screening tests such as glucose, HPV, free HIV test.

As laboratory medicine comes out of the shadows, there is still much we can do to peek behind the curtain to reveal to everyone how our profession saves lives every day. A big thank you to everyone who participated in this first edition and see you next year in 2023!



Activities organized by the Osijek University Hospital Centre, Osijek, Croatia

Young SIBioC
5 d · 🌐

#EuLabDay2022 SIBioC is participating in the first European #LabDay organized by the EFLM Task-Group "European LabDay"! Please share and enjoy! Thank you!

#EFLMLabDay #EuLabDay #SIBioC
#laboratorymedicine #LabMedicine
#youngscientists #medicinadilaboratorio
Sibioc Young SIBioC-Medicina di Laboratorio EFLM Task Group Young Scientists European Federation of Clinical Chemistry and Laboratory Medicine



Activities organized by the Italian Society of Clinical Biochemistry and Clinical Molecular Biology "SIBioC - Laboratorio Medicine"



Activities organized by the Department of Biochemistry at the Zonguldak Bülent Ecevit University, Turkey "Medical students in outdoor activities celebrating the LabDay

LAB



LabPlus, Split, Croatia



Activities organized by LabPlus, Split, Croatia



Dubrovnik General Hospital, Croatia

Activities organized the Dubrovnik General Hospital, Croatia



Laboratory Open Door Days in Estonia.

Know more at:

<https://www.regionaalhaigla.ee/en/node/21448>,

<https://www.facebook.com/regionaalhaigla>



8 European Lab Day – Dra. Paula Jorge

NOV 22



Activities prepared by the Portuguese Nacional Biochemists Association: [click here](#) to see the video celebrating the EuLabDay



Vesna Supak Smolicic, Rijeka, Croatia, organized a fun kindergarten workshop on laboratory in the kitchen. The children had the opportunity to see real experiments done with things they have at home and they could try the experiments themselves. They were very enthusiastic. Maybe some of them will realize how wonderful chemistry and biochemistry are because you can help people by doing magic. Harry Potter in the real world.

How can kids do fun experiments in their own kitchen



What happens when you mix milk and detergent? Preschool children probably do not understand the hydrophobic and hydrophilic properties, but it's fun to watch the colors run across the plate.



Is it possible to inflate the balloon from the bottle?



Red cabbage as an acid-base indicator
Try it yourself



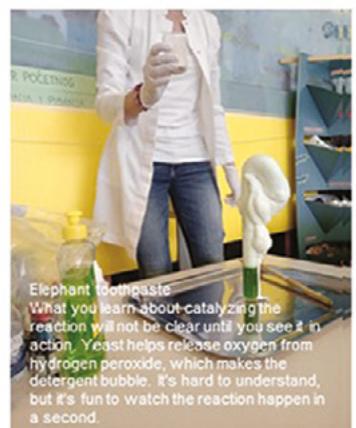
Red cabbage as an acid-base indicator
If you add all sorts of liquids from your kitchen to red cabbage water, the natural indicator in the cabbage turns from intense pink to blue and green... it is beautiful to watch the colour magic in the tube



Is it possible to inflate the balloon from the bottle?
If you put vinegar in the bottle and baking soda in the balloon and put the balloon on top of the bottle, you can watch the gas from the reaction fill the balloon. The trick is to know when to stop before the balloon explodes.



Fireworks in a glass
When the drops of food colouring pass from the oil layer to the water layer, they dissolve in a way that looks like the fireworks in a glass in slow motion. We can watch this all day long.



Elephant toothpaste
What you learn about catalyzing the reaction will not be clear until you see it in action. Yeast helps release oxygen from hydrogen peroxide, which makes the detergent bubble. It's hard to understand, but it's fun to watch the reaction happen in a second.

Daniel Rajdl, Czech Republic organized lecture for professionals in healthcare institutions.

A joint conference of laboratory medicine and nursing staff dedicated to preanalytical problems and emergence of preanalytical teams in our hospital (University Hospital and Medical Faculty in Pilsen, Czech Republic). We spent a very productive day with friendly discussions and introduced some significant improvements in the daily practice of our hospital (e.g. decrease in discarded blood volume during blood draw from catheters).



Nurses and lab staff in one team



More than 100 participants from Czech and Slovak Republic joined the conference in person or online.

News from Slovak Society of Clinical Biochemistry (SSCB) XIV SSCB Congress - Celebrating its 30th anniversary as an independent organization

Reported by Ján Balla, National Representative of IFCC and EFLM, Hedviga Pivovarníková, President of the SSCB, Daniel Magula, Member of the SSCB Board, Mária Kačániová, Member of the SSCB Board

One of Slovakia's most beautiful National parks, the valley Demänovská Dolina, became a venue of the XIV Congress of the Slovak Society of Clinical Biochemistry with International Participation which was held under the auspices of the European Federation of the Clinical Chemistry and Laboratory Medicine on October 9-11, 2022. Two EFLM presidents honored the congress with their presence and lectures: Prof. Tomris Ozben, the current executive president of EFLM, for whom the trip to Slovakia was also the first trip in the position of IFCC President-Elect shortly after her election. The second distinguished guest was Prof. Sverre Sandberg, former EFLM president (2016-2018).

The Demanovska Valley (Demänovská Dolina) is known throughout the cultural world for its huge complex of caves. With its length of 43 km, the Demanovska cave system is the longest cave in the Carpathian Mountains. It consists of 11 originally separate caves and approximately 300 smaller ones. The total length of all the known caves of Demänovská Dolina is 80 km. This entire unique system is responsible for the Demänovka river with its tributaries. Demanovska Cave of Freedom and Demanovska Ice Cave is open to the public. The third cave is being considered to be made accessible. Among the public, the Demanovska Valley is most known as the largest ski resort in Slovakia named Jasna. In autumn, Jasna changes to a relaxed destination for active relaxation, offering many hiking, trekking, and Nordic walking trails of various difficulty levels. Modern comfortable cable cars operate to Mt Chopok 2,024 m a.s.l. From there, one can make hiking trips along mountain ridges or easy autumn walks. In winter, Jasna is the most extensive ski arena with excellent conditions for winter sports in Slovakia. Jasna is offering endless opportunities for entertainment and active relaxation. Jasna is the birthplace of the world's top skier, Slovak Petra Vlhová, World champion, winner of the World Cup, and Olympic champion in alpine disciplines.

The idea to organize the Congress in the mountains was born from the inspiration of the previous SSCB events held outside urban areas. With eagerness in the heart but uncertainties due to pandemic lockdowns in mind, EB SSCB started preparations for the annual congress a year before. The pandemic has put people in a new perspective on the fragility of life, and their plans and reminded them that plans are just plans and the only real constant in life is changing. The members of the organizational and scientific committee of the Slovak Society of Clinical Biochemistry, still a young but dynamically developing professional society, at the time of the pandemic but the developing digital revolution and its impact on changing laboratory medicine, intensively discussed and carefully selected topics for this congress. Finally, the 14th SSCB Congress included presentations and posters from a range as follows: 1. POC Testing 2. COVID-19 3. Nutrition 4. Hepatology 5. History of Clinical Biochemistry.

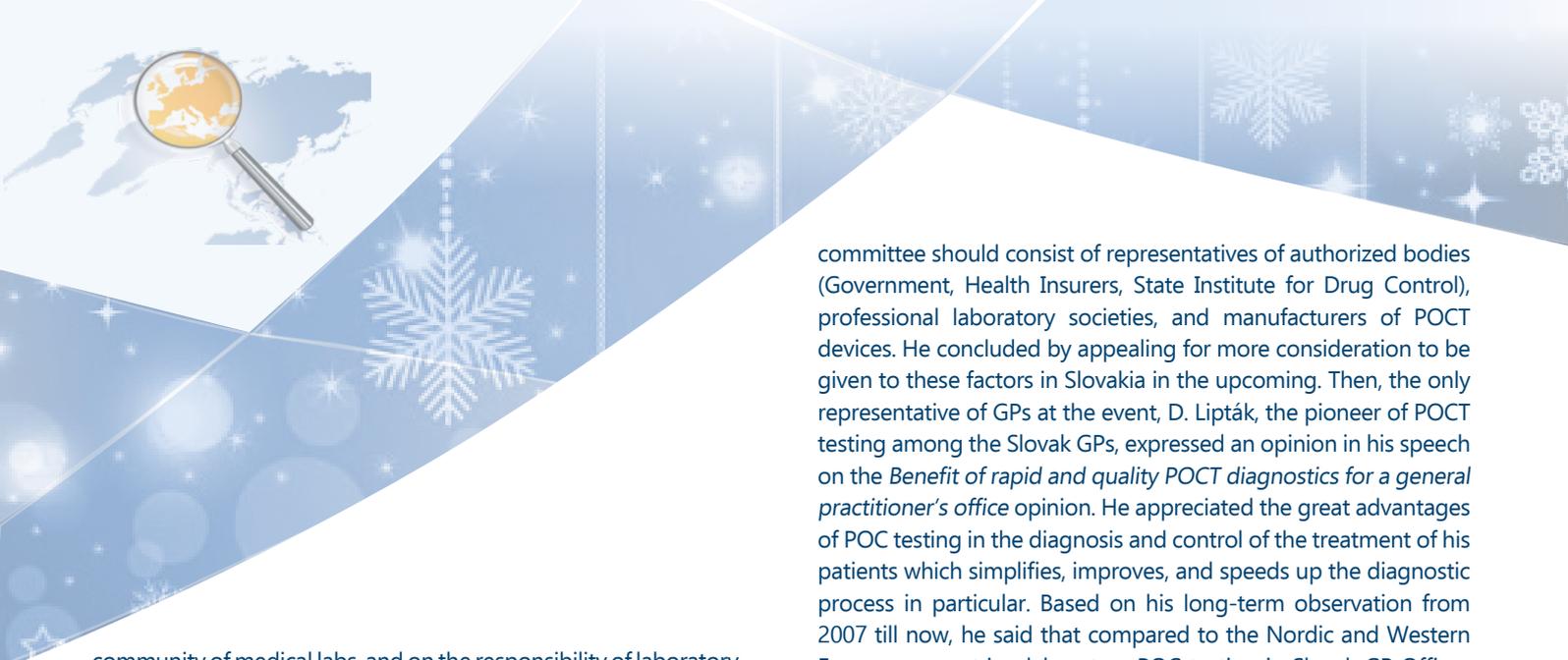
The ceremonial opening of the congress was started by the welcome speech of Hedviga Pivovarníková, M.D., EuSpLM, the SSCB President, who cordially welcomed Congress guests Prof. Tomris Ozben, EFLM President & IFCC President-Elect; Prof. Sverre Sandberg, former EFLM President; Prof. Aldo Tomasi,



Prof. Tomris Ozben was awarded Honorary Membership of the Slovak Society of Clinical Biochemistry. From the left Hedviga Pivovarníková, SSCB President

former Dean of Medical School and later the Rector of the Unimore University in Modena; Associate Profesor Drahomíra Springer, President of the Czech Society of Clinical Biochemistry (CSCB); Prof. Jaroslav Racek, CSCB Vice-president; Prof. Antonín Jabor, former CSCB President; Heidi Heidi Berghäll, Ph.D., EB Member of the Association of Clinical Biochemists in Finland, and all the domestic participants as well. Then the program followed by awarding honors and awards to long-standing meritorious members of the Slovak society of Clinical Biochemistry. First, Prof. Tomris Ozben was awarded Honorary Membership of the Slovak Society of Clinical Biochemistry. The SSCB grants the title of Honorary Member to individuals who have made exceptionally distinguished contributions to the advancements in the field of clinical chemistry and laboratory medicine, and the fulfillment of goals of the Regional and International Federations. Then the session continued with a short presentation about the late Prof Ivan Pecháň, former SSCB President and a long-term Head of the Department of Clinical Biochemistry of the Institute for Continuing Education of Doctors and Pharmacists at the Slovak Medical University. The Professor Ivan Pecháň Prize Award was given to Pavel Blažiček, associate professor, for his lifelong scientific contribution to the field of clinical biochemistry, particularly of catecholamines in the adrenal gland and tumorous tissue, multiple endocrine neoplasias, pheochromocytoma, and tumors of the sympathoadrenal system. The awardee delivered a laureate lecture on the importance of the collaboration between a clinical biochemist and a clinician.

The scientific program of the Congress was introduced by Prof Tomris Ozben's plenary speech on the topic of the *Implementation of sustainable practices in medical laboratories*. At the beginning of her speech, she informed the audience about the role, structure, activities, tasks, and initiatives of EFLM. Then she was going to green labs. Prof Tomris Ozben appealed to the professional



community of medical labs, and on the responsibility of laboratory professionals for technical innovations, making positive changes to their work, and creating a culture of sustainability in the medical labs. A sustainable laboratory implements practices to minimize its impact on the environment. Fundamentals of a green lab include conserving energy and water, reducing waste, and recycling. Proper chemical, medical, and radioactive waste disposal in safe, environmentally friendly ways are critical in supporting sustainability. The Green Labs Program aims to encourage “going green” in medical labs, conserve natural resources, and protect the environment and the people who live in it. Any lab participating in safe and sustainable practices can receive the Certificate Green Lab.

The introductory session of the Congress *Basic principles and practical aspects of POC testing in primary health care* was opened by distinguished speaker Prof. Serre Sandberg on *Important aspects of establishing a POC quality system outside hospitals, the NOKLUS model*. He outlined which constituents should be analyzed at the GP office, homecare, nursing homes, etc.; what POC devices should be used in primary care; how to secure analytically correct results; how to perform correct interpretations of the results; what tests should be requested in primary health care in the most common clinical situations. Furthermore, he talked about professional sections of the Norwegian Quality Improvement of Laboratory Examinations (NOKLUS) activities. He did not miss the importance of SKUP in the objective and impartial evaluation and assessment of POCT devices. He mentioned the scoring system to determine the frequency of performing IQC in POC testing, differences in EQAS for POC testing and laboratories, commutability of controls, analytical performance specifications, and stressed pre- & post-analytical quality assurance to ensure all phases of laboratory testing. He concluded by making powerful recommendations on the mentioned issues. The session continued with the following presentation titled *Education, training, and assessment of POC testing competencies outside the hospital* brought forward by J. Balla, SSCB National Representative, who talked about the importance of the regulatory requirements for POC testing. He stressed they must focus primarily on two main areas: (1) education (training) of clinical staff and their ability to perform laboratory testing; (2) testing quality control and verifying compliance with the procedures established by the manufacturer for each test. A key role is played by the regulatory body (POCT Committee), which sets standards for POC testing, performs test selection, monitors test sites, and checks and approves applications for establishing a POCT site before it is put into operation. The POCT

committee should consist of representatives of authorized bodies (Government, Health Insurers, State Institute for Drug Control), professional laboratory societies, and manufacturers of POCT devices. He concluded by appealing for more consideration to be given to these factors in Slovakia in the upcoming. Then, the only representative of GPs at the event, D. Lipták, the pioneer of POCT testing among the Slovak GPs, expressed an opinion in his speech on the *Benefit of rapid and quality POCT diagnostics for a general practitioner's office* opinion. He appreciated the great advantages of POC testing in the diagnosis and control of the treatment of his patients which simplifies, improves, and speeds up the diagnostic process in particular. Based on his long-term observation from 2007 till now, he said that compared to the Nordic and Western European countries, laboratory POC testing in Slovak GP Offices is used only minimally. He stated that the POCT devices menu, the range of services, the inconsistency of contracts in the Health Care Insurers on tests reimbursement, amount, and terms, and the aging population of Slovak general practitioners (30% of doctors are over 65 years old) are the main obstacles to the positive and meaningful use of POC tests in GPs offices. The next lecturer in the introductory block was H. Berghäll, a Finnish expert in EQA. Her contribution to EQA for POCT – *Quality opportunities, and challenges for implementation* resonated with her rich experience from developing new EQA schemes and approaches in the POCT. Her speech emphasized that EQA providers should offer clinically relevant programs and cover the entire testing process including pre- and post-analytics and the analytical phase. There is no exception when it comes to EQA for POCT. EQA samples should cover both abnormal and normal concentrations, they should be stable, homogenous, safe to use, commutable, as well as preferably ready to use for analysis in the same way as patient samples would be analyzed. In practice, EQA samples often need some pretreatment such as resuspension or reconstitution and this can cause challenges for POCT sites where no laboratory equipment is available. Instructions should be very straightforward and laboratory jargon should be avoided since this might be misinterpreted.

The introductory address of the second session *Laboratory diagnostics of COVID-19 in Slovakia* during the pandemic was delivered by H. Pivovarníková, Head of the clinical laboratory, SSCB President, and direct participant with testing experience in MOM in the 1st phase of the pandemic 2020. In her lecture *Pre-analytical phase in the spotlight*, she emphasized the term “preanalytical phase” was introduced in the literature in the 1970s. This term describes all the activities and aspects of the medical laboratory diagnostic procedure before the analytical phase. It is the role of laboratory professionals to raise awareness of this phase as the main cause of “laboratory errors”. The principal, necessary, and long-term goal is to involve doctors and nurses in pre-analytical processes. Clinical laboratory initiatives that affect pre-analytical phases are doomed to failure in the absence of adequate communication between all relevant stakeholders. One strategy to achieve this goal is educational efforts. The quality of the sampling material, knowledge of the anatomical location of sampling, the correct sampling technique, and a sufficient amount of sample was the priority during the Covid-19 pandemic. If the sample volume is not observed, this can lead to a decrease in analytical data, a false negative result, and threaten patient safety. The pandemic has proven that mutual communication with



Prof. Sverre Sandberg opened the introductory session by presenting Important aspects of establishing a POC quality system outside hospitals, the NOKLUS model

clinicians is key to working safely and effectively in these new and challenging times. A key role in the regular education of partners in the pre-analytical phase should play clinical laboratory, which is the most experienced and knowledgeable in the topic. However, this also requires a sufficient number of experienced laboratory professionals, a strong will, and motivation. The next lecture, *Cytokine storm in the COVID era*, given by O. Rácz due to the absence of the author of N. Lukán explains, that the systemic inflammatory response is activated by various infectious factors but also non-infectious genesis. If the response becomes uncontrolled, we speak of a cytokine storm. The consequences of a cytokine storm can lead to extensive damage to homeostatic regulatory mechanisms, resulting in the death of an individual. The uncontrolled release of cytokines is a serious complication of the adverse development of monogenic, autoimmune, autoinflammatory conditions, and severe anaphylaxis, but it often occurs in connection with therapeutic procedures (medical intervention, transplantation, administration of some modern drugs). The challenge for scientists is to define all the signaling pathways, triggers, and effector molecules responsible for the cytokine storm's development. Only through an exact knowledge of immunopathological events and subsequently their therapeutic influence will it be possible to regulate an unfavorably developing, often fatal, uncontrolled process. Tocilizumab remains the most widely used molecule for systemic treatment. In addition to anti-IL-6 treatment, current research opens up new possibilities for combining pharmaceutical, non-pharmaceutical and complementary treatments in a successful fight against the development of cytokine storm. Exact knowledge of signaling pathways and effector molecules, as well as accurate identification of immune processes during the cytokine storm, will be able to resolve the fatal inflammation. There is a huge need for all doctors to create a physiological justification for the introduction of new, but also old therapeutic procedures, which in the future could lead to personalized medicine even in the case of diagnosis and treatment of cytokine storm of various etiology. The third lecture of the COVID session, *Post-COVID pulmonary syndrome – the relationship of D-Dimer and imaging results*,

authored by J. Lepej et al., was focused on the assessment of late lung changes caused by SARS-CoV2 virus or after vaccination and especially the occurrence of pulmonary embolism. In 2020–2021, authors performed 1036V/Q scans. They analyzed the results together with medical records and D-dimer (DDi) levels. There were 281 examinations with pulmonary changes after COVID-19 or after vaccination. D-Dimer levels increased with PE severity in all groups except PE after COVID-19. Patients with this complication had a history of cancer more often, and the proportion of smokers was smaller than in patients with PE due to coagulopathy. The COVID-19 pandemic has important consequences for the health of the population and the level of healthcare in Slovakia. In the next lecture, given by I. Bernát, Head of the Medical Devices Section at the State Institute for drug control, entitled *Changes into Act No. 362/2011 Coll. in connection with the implementation of Regulation (EU) 2017/746 of the European Parliament and the council (IVDR) were explained the changes in Act No. 362/2011 Coll., which are a consequence of the implementation of the IVDR*. The aim is to ensure the smooth functioning of the internal market for in vitro diagnostic medical devices, while the emphasis is placed on a high level of protection of the health of patients and users. At the same time, high standards of quality and safety of diagnostic medical devices are set for manufacturers. Act No. 362/2011 Coll. also states the requirements for putting an in vitro diagnostic medical device on the market or into operation. The last speaker of the session, B. Popsimov from Beckman Coulter, presented the *Use of clinical IT in a modern laboratory – experience from the supplier's point of view*. He presented an overview of the basic orientation in the levels of automation of clinical laboratories. We must determine the level of automation without significant investments when deploying existing clinical IT. Reflecting on the state of HW and SW development. A functional point of view and at the same time a point of view of legislation and ethics. He presented also the types of clinical IT users. On the one hand, the user prefers simplicity and a high degree of presenting, and on the other hand, the one who likes to set the system himself according to his requirements.

The third session of the congress was devoted to problems of nutrition from various points of view. The first presentation given by I. Majerčák discussed some myths related to obesity. Treatment of obesity is not in weight reduction itself, much more emphasis is placed on weight loss maintenance. Treatment must consist of four basic pillars – diet therapy, physical activity, lifestyle change, and pharmacotherapy/ bariatric. Cognitive-behavioral therapy is most commonly used for lifestyle change, which aims to eliminate inappropriate eating and movement habits and teach



Presidium of the international session of the congress. From the left P. Sečník, Jr., EB SSCB Member; J. Balla, SSCB National Representative; Prof. G. Kováč, SSLM President



Congress Organizing Committee. From the left D. Magula, H. Pivovarníková, M. Kačániová, P. Sečník, Jr.

a patient with obesity how to replace inappropriate thoughts and self-blaming with a positive approach to a new lifestyle. Lifestyle change has several stages: overcome stage, contemplation, preparatory stage, stage of change, prevention of relapse, and management of possible relapse. The patient needs information that obesity is a disease that can be treated. The goals in the management of obesity should be real, achievable, and acceptable. In the next presentation on nutritional information on food packaging and the Nutri-Score labeling perspective, P. Minárik and co-authors pointed out the great importance of diet and nutrition in preventing chronic diseases. Food and nutrition literacy is more than just a collection of academic knowledge about food and nutrients. The basic facts about a rational diet and „healthy“ nutrition are given by the WHO. European Food Safety Authority (EFSA) recommended that all European countries transform nutrition-based dietary recommendations into scientifically supported food-based dietary guidelines. These dietary recommendations should include various educational visual aids. Part of nutritional literacy also understanding the nutrition information on food packaging. The Nutri-Score system is a promising way of 5-level color nutrition labeling on the front-of-pack of foods in all European Union. The European Commission plans to approve the mandatory labeling of all packaged foods with the Nutri-Score logo by the end of 2023. J. Šaligová and Ľ. Potočnáková informed about their experiences on the nutritional treatment of the rare inborn errors of metabolism (IEM). From the pathophysiological point of view IEM are classified into three groups: 1) an alteration of the synthesis or the degradation of complex molecules, changes in the structure and the function of the organs are the consequences, 2) IEM as the results of acute or chronic intoxication, 3) IEM due to a deficit in production or the

utilization of the energy. The second and third groups can profit from the dietary intervention. For many IEMs nutritional therapy is the basic and the only therapeutic possibility. The authors present the survey of the nutritional therapy of IEM- principles of the dietary regimens in specific IEM and their typical laboratory findings. S. Oravec and co-authors in the post discussed the issues of small dense LDLs and dyslipidemia and their role in atherogenesis. Even 75% of patients who survived acute coronary events had a normal level of blood lipids. So, normolipidemic must not ever protect against coronary events and cardiovascular disease development. In lipoprotein subfraction, small dense LDL (sdLDL) particles were identified as a risk factor with high atherogenicity, which participates in the formation of atherogenic lipoprotein profile, phenotype B. This phenotype was found in 80-85,5% of patients with arterial hypertension, coronary heart disease, and peripheral artery disease and in patients who survived an ischemic stroke in their group. The last presentation in this session of author P. Chlebo and al. was dedicated to bioactive substances in wine and their health effects. Wine is a phenomenon of the modern time, as well as prestige. Increased wine consumption causes various health problems, on the other hand, moderate consumption of wine can have a positive effect, especially on cardiovascular disease. Framingham's study showed that consumers of moderate amounts of alcohol recorded myocardial infarction by 80% compared to those of no consumers. Resveratrol as the bioactive substance in wine is considered to be responsible for major health effects of wine consumption. Only moderate consumption of wine, e.g., 10-20 grams of pure ethanol for men or 10 grams for women per day, can benefit consumers. It is necessary to state that even moderate consumption of wine cannot be recommended, but it can be only tolerated.

The introductory address *Laboratory diagnostics in transplantation hepatology* in the fourth session named Hepatology was delivered by Ľ. Skladaný, Slovak renowned hepatologist, and gastroenterologist with the main expert focus on diagnosing and treating liver, digestive system, and kidney diseases, including the transplant program. He clarified laboratory diagnostics in hepatology to prevent liver transplantation. Differential diagnosis is unthinkable without a biochemical toolbox. Non-alcoholic fatty liver disease is one of the most common causes of and indications for chronic liver disease and liver transplant. Alcohol-associated hepatitis (AH) is a distinct clinical syndrome characterized by the recent onset of jaundice in the context of heavy alcohol consumption. Time-to-tertiary care is an independent predictor of mortality in patients with acute decompensation of cirrhosis triggered by AH. The next lecture, given by P. Sečník, Jr., traced the introductory speech. In their talk *Biomarkers of alcohol consumption*, published findings on excessive consumption of ethyl alcohol, a serious medical problem with a significant overlap in several areas of society. He stated that using biomarkers to objectify alcohol intake has been a long-discussed topic within laboratory diagnostics. In addition to traditional non-specific markers, such as gamma-glutamyl transferase, hepatic aminotransferases, mean erythrocyte volume, or thrombocytopenia, several potential markers with higher diagnostic accuracy are currently available. Practically used include phosphatidyl ethanol (PEth), carbohydrate-deficient transferrin (CDT), ethyl glucuronide (EtG), and ethyl sulfate (EtS). The third lecture of the hepatology session, *Hepatic porphyria caused by defects in hem synthetic pathway*, authored by B. Nováková et al, dealt with acute hepatic porphyria. This includes acute intermittent porphyria, the most common type of acute porphyria, variegate porphyria, or hereditary coproporphyria.



Prof. Tomris Ozben during the post-congress walk around the mountain lake Strbske Pleso

Aminolaevulinate dehydratase (ALAD) deficiency porphyria is extremely rare. Patients with acute hepatic porphyria present with an acute attack, typically during early and middle adulthood, more frequently in women. However, most mutation carriers never develop symptoms, while symptomatic patients often suffer from repeated attacks. Often an attack is induced by various triggers (e.g., medication, stress). An acute porphyria attack can be quickly confirmed or ruled out by biochemical measurement of PBG and ALA in the fresh morning urine. More advanced biochemical methods are needed in remission: HPLC of urine and feces, plasma fluorometric emission scanning, and DNA testing. The last speaker of the session, A. Jabor, presented an overview of the *Potential use of galectin-3 and PIVKA II in hepatology*. Galectin-3 (GAL3) is an emerging biomarker of fibrosis, used mainly in the field of cardiology; however, increasing evidence is available for the use of GAL3 in nephrology, hepatology, and pneumology. PIVKA II is a candidate biomarker of hepatocellular cancer and other diseases of the liver.

Final congress contributions were devoted to the History of Clinical Biochemistry in the Slovak Republic. First, J. Čársky in his lecture summarized his published extensive historical survey, titled *From medical (physiological) chemistry to the origins of biochemistry and clinical biochemistry in Slovakia (in the context of European development)* from the beginnings in antiquity to the present. His lecture was followed by D. Magula with a presentation on *Major milestones in the evolution of laboratory and clinical (bio)chemistry in the world and Slovakia – a brief chronological review*. He listed the most significant world and Slovak events and distinguished biochemistry personalities who contributed to the development of laboratory discipline all over the world, and in Slovakia in particular.

The conclusion of the scientific program of the congress belonged to the topic of Education quality in laboratory diagnostics. M. Farkaš analyzed the developments and historical specifics of the education of laboratory scientists (Specialists in Laboratory diagnostics) in Slovakia. B. Hvozdovičová introduced the EFLM syllabus for postgraduate education and training of Specialists in Laboratory Medicine to those present. J. Balla explained the mission of the EFLM Academy and listed the important benefits of its membership to SSCB members.

In the sixth, poster, session of the congress 14 scientific contributions were presented in the form of electronic posters. According to individual topics the scientific areas are listed as follows: Inflammation and antipsychotic levels, Analysis of adrenal cortex and adrenal medullary hormones in the diagnosis of endocrine hypertension, Free light chain leakage in clinical practice, follow-up testing of patients with positive isovaleric

aciduria in newborn screening, Improvement of vitamin D status in population due to COVID-19 pandemic, Additional finding associated with severe ketosis or metabolic disease presentation, Determination of cortisol in saliva, case report – a goiter are not like a goiter, Making criteria for gestational diabetes mellitus more restrictive, and the contributions describing the history of four Slovak departments of clinical biochemistry, or commemoration on one of the founders of clinical biochemistry in Slovakia. These electronic posters were available throughout the congress with discussion possibilities.

In conclusion, after two pandemic years and continuous lockdowns, fellow biochemists and laboratory professionals couldn't wait for personal meetings at the SSKB congress. Everyone was very excited and had immense joy from the face-to-face meetings. Great efforts and excellent organization of the Congress enhanced the course of this event, which began to restore the "normal" life of society. Hedviga Pivovarníková, the SSCB President, thanked Mária Kačániová, the Head of the Congress Organizing Committee, for the excellent organization of the event, then to the speakers for the stimulating lectures, and all the participants for their active interest and personal participating at the SSCB Congress 2022. Before the closing of the event, she asked participants to complete the post-congress survey to enable EB SSCB to get feedback on shaping future events. She concluded the Congress by saying that she looks forward to meeting all the participants at the next SSCB Conference LABKVALITA 2023.



At the Lomnický Peak, the second highest in the High Tatras. From the left H. H. Berhäll S. Sandberg, J. Korhonen



Prof. Tomris Ozben with Ján Balla enjoy walking around the location where the SSCB Congress was held



10th Congress of the Croatian Society of Medical Biochemistry and Laboratory Medicine with International Participation

Reported by Jasna Đogić, Administrative Secretary of the Croatian Society of Medical Biochemistry and Laboratory Medicine

The 10th Congress of the Croatian Society of Medical Biochemistry and Laboratory Medicine (CSMBLM) organized by the Branch of Slavonia and Baranja was held in Zagreb, Croatia from September 28th to October 1st 2022 under the auspices of the EFLM and the IFCC organizations.

During the four days of the Congress, around 300 participants had the opportunity to attend lectures covering various topics in the field of laboratory medicine that were organized through eight distinct symposiums, to actively participate and engage in discussions with colleagues at the "Meet the Expert" sessions as well as to discover the latest technological innovations and possibilities presented by IVD companies.

The Opening Ceremony included welcome greetings from the President of the Organizing Committee Vika Buljanović, the President of the Scientific Committee Assist. Prof. Sanja Mandić as well as distinct representatives from national scientific and professional institutions. At this occasion, President of the CSMBLM Professor Daria Pašalić had the honor to present the winners of the CSMBLM awards. Professor Ivana Čepelak was awarded for lifetime achievement. The Marijana Fišer-Herman accolade for active work within the CSMBLM, especially for the scientific and educational work, development and progress of medical biochemistry in general as well as advancement of medical thought and science was given to Prof. Ana-Maria Šimundić. The Ibrahim Ruždić accolade for distinguished involvement in the promotion of biomedical science and exceptional contribution to work organization, realization of CSMBLM tasks and modernization of laboratory activities was awarded to Assist. Prof. Lorena Honović. The Opening Ceremony included a honorary lecture by Korado Korlević, one of the leading Croatian astronomers who, in a provocative way, presented the social changes we are facing in nowadays world, discussed what the future holds and highlighted the importance of curiosity, lifetime learning and dedication as crucial factors for a more prosperous and righteous future.

The Opening Ceremony was preceded by a Pre-congress symposium chaired by Assist. Prof. Nora Nikolac Gabaj dedicated to scientific publishing, which included lectures addressing the most common mistakes when writing a scientific paper (Marijana Miler), tips and tricks for proper statistical analysis (Nora Nikolac Gabaj), the issue of salami publication (Vesna Šupak Smolčić) and the approach that should be undertaken when choosing the journal for where to submit the manuscript (Ana Turčić). The Pre-congress Young scientists symposium chaired by Ivana Lapić was held for the first time and was a valuable opportunity for young



colleagues to present and share their work. The lectures dealt with personalized diet based on gut microbiome (Ena Melvan), experiences of the University Hospital-Padova, Italy in the battle against SARS-CoV-2 (Ada Aita), the challenges of introducing the expanded newborn screening programme in Croatia (Iva Bilandžija Kuš), while Tara Rolić presented her personal experience and possibilities of active involvement in activities within the professional societies.

The Congress symposiums covered a wide range of topics presented by distinguished national and international lecturers. The symposium on new technologies in laboratory medicine was opened by Professor Mario Plebani who gave a lecture about total automation and the challenges laboratory medicine is facing with the widespread development of point-of-care instruments and wearables. Assist. Prof. Mario Štefanović talked about next-generation sequencing, while Professor Željko Debeljak presented his experiences in the diagnostic applications of mass spectrometry imaging. This block was followed by a plenary lecture by Professor Sverre Sandberg entitled "Is external quality assurance useful?".

The second symposium was dedicated to the application of data science in laboratory diagnostics improvement. Intriguing lectures about the development of medicine, with the emphasis on laboratory medicine in the digital revolution, data analysis as a source of new knowledge, and the application of laboratory data mining were provided by Bojan Hadžisejdić, Professor Lidija Bilić-Zulle, and Vesna Šupak Smolčić, respectively. The symposium dealing with novelties in laboratory hematology encompassed the following topics: the use of new parameters on hematology analyzers in the diagnostics of thrombotic microangiopathies (Assist. Prof. Marija Miloš), automated analysis of extravascular body fluids (Lara Milevoj Kopčinović) and the use of digital morphology analysis (Assist. Prof. Leida Tandara).

The second plenary lecture about leadership in laboratory medicine was given by Professor Ana-Maria Šimundić.

In the symposium dealing with the challenges a contemporary laboratory is facing nowadays, Professor Dunja Rogić presented the approaches to be undertaken in order to rationalize laboratory test ordering, Ivana Rako and Margareta Radić Antolic talked about the need of a close collaboration between laboratory and clinicians, Ivana Lapić gave an overview of the accreditation of medical-biochemistry laboratories in compliance with ISO 15189 in Croatia, while Assist. Prof. Vatroslav Šerić presented the laboratory as a business process, with focus on automation, informatization and optimization of laboratory processes.

NEWS FROM EFLM NATIONAL SOCIETIES

FEBS Advanced Lecture course: 360-degree Lysosome; from structure to genomics, from function to disease-update

Reported by Eser Yildirim Sozmen, Course Coordinator

FEBS Advanced Lecture course titled "360-degree Lysosome; from structure to genomics, from function to disease-update" which was mainly supported by FEBS (Federation of European Biochemical Societies), EMBO (European Molecular Biology Organization), TÜBİTAK (The Scientific and Technological Research Council of Türkiye) and The Company of Biologists was held between 4-9 October 2022 in Kusadasi/Türkiye, under the auspices of TBD (Turkish Biochemical Society), IFCC (International Federation of Clinical Chemistry) and EFLM (European Federation

The last day of the Congress started with a series of lectures from the field of pediatric laboratory medicine, covering specific topics: starvation biomarkers in pediatric anorexia nervosa (Assist. Prof. Orjena Žaja), laboratory diagnostics of congenital adrenal hyperplasia using LC-MS/MS (Assist. Prof. Dario Mandić) and the challenges in diagnosing congenital adrenal hyperplasia from a clinician's standpoint (Assist. Prof. Katja Dumić Kubat). The last symposium dealt with the many challenges and possible solutions in the thyroid hormones diagnostics, and covered the following topics: interpretation of thyroid hormone results during pregnancy (Vesna Horvat), preanalytical and analytical challenges in this field (Iva Lukić), laboratory assessment of thyroid function from a physician's perspective (Professor Darko Kaštelan) while Assist. Prof. Sanja Mandić presented how to design, implement and evaluate autoverification rules for thyroid hormones.

The "Meet the expert" sessions that were held in the morning hours dealt with the following topics: the editorial process of a biomedical journal (Professor Daria Pašalić), Croatian external quality assurance programme (Assist. Prof. Jasna Leniček Krleža), biostatistics (Professor Lidija Bilić-Zulle), autovalidation (Vladimira Rimac and Ana Turčić), public procurement procedures (Assist. Prof. Leida Tandara) and human reproduction (Marijan Tandara). In addition, a total of 11 industrial workshops were organized, where latest novelties offered by IVD companies were presented. The social programme of the Congress included a Speaker's dinner and a Congress dinner for all Congress participants, which also included the presentation of the best posters. Vesna Šupak Smolčić was awarded by the Scientific Committee while Congress participants voted the poster by Ida Taradi as the best. All e-posters were available in the exhibition area on LCD screens during the whole duration of the Congress, and each was accompanied by a short audio presentation. In addition, 18 posters chosen by the Scientific committee were presented during the Poster session. In total, 124 abstracts were accepted for the Congress and are available in the Supplement issue of the official journal of CSMBLM *Biochimica Medica* (32/(Suppl 1)).

Overall, the Congress was a great success. A survey for Congress participants was available through the official mobile application and more than 60 % of all survey respondents graded the overall experience with the highest score. The participants appreciated the intriguing and diverse scientific programme, combined with a variety of social activities and the positive atmosphere that could be felt throughout the whole duration of the Congress.

of Laboratory Medicine).

The course is planned as a meeting on lysosomes-unique organelles of the cell, which are of high interest primarily for researchers in biochemistry, molecular, cellular and developmental biology. The key objectives of our workshop were; to discuss new insights and latest advances in the role of lysosomes as an organelle, to improve the knowledge on the pathophysiological genetic, cellular and molecular biochemical mechanisms in LSDs, to interpret the genomic and function relationships in LSDs, to



contribute to develop new directions in further research in the field of lysosomes and LSDs.

Program started with the conference titled "My journey into the world of sphingolipids and sphingolipidoses" by Prof. Sandhoff who was explained the pathophysiology of Sandhoff Disease. This conference was broadcasted live via Ege University channel and recorded conference might be watched in this link: <https://www.youtube.com/watch?v=7XpmXtsqnsW>

Educational aspects were achieved through by different training activities; Plenary Lectures, panel discussion, Last Minute question session which was organized as a round table discussion, Oral communications (total number is 16) and Poster sessions (32 posters were displayed).



FEBS Advanced Lecture Course
360° Lysosome; from structure to genomics, from function to disease

4-9 October 2022
Kusadası/Turkiye



19 speakers and 62 participants having different backgrounds (Biochemist, cell biologist, medical doctor etc.) attended in the course. Most of the speakers were from Europe (13/19), 5 of them were from USA & Canada & South America and one from India. Generally, the organization was found as very successful either scientifically or socially. 88 % participants were rated as excellent. Quality of scientific training and interaction with speakers were rated as excellent by 92.8 % of participants. Round table discussions were fruitful; therefore there was a demand for more round table discussion sessions.

Overall evaluation of the Event was rated as excellent (88.1%) and good (11.9%) and most of the participants (92,86 %) pointed out that the course fulfilled their expectation.

Congress and symposiums are of great importance for learning new information and following scientific developments in today's

world where information is multiplied exponentially. However, in meetings with a large number of participants, it is more difficult to make bilateral contacts and acquire a social circle. Therefore, courses and meetings such as the FEBS course which covered special topics offer unique opportunities for all participants, especially students. During the course, the participants got a chance to meet people working in the same field, listen to the subject in depth from experts, discuss questions about the subject with experienced people, and make collaborations and project designs for the future. Therefore, participation of a student in this course might have more impact than those of congress. I personally hope that the support for this kind of scientific event by Scientific Associations continues by increasing.

6th Slovenian Congress of Clinical Chemistry and Laboratory Medicine with international participation

Reported by Lidija Gobec, President of the SZKKLM and Organizing Committee and Evgenija Homšak, President of the Scientific Committee



From 19th to 20th September 2022, the 6th Slovenian Congress of Clinical Chemistry and Laboratory Medicine, with international participation, took place at the Congress Centre GHB in Portorož, under the IFCC and EFLM auspices. Moreover, the 6th Slovenian Congress of Laboratory Medicine Technicians was also held in parallel. Both congresses were organised by the Slovenian Association for Clinical Chemistry and Laboratory Medicine, which has been active in Clinical Chemistry for more than 50 years. Throughout this period, it has supported continuing education of its members by organising periodic professional meetings for specialists and technicians as well. Both congresses were postponed two times due Covid-19 pandemic, which highlighted the importance of laboratory medicine in medical diagnosis and treatment decisions of patients.

The congress program began with a plenary lecture "Future of Laboratory Medicine with Emerging New Technologies, Big Data and Artificial Intelligence" by professor Sergio Bernardini, professor of Clinical Biochemistry and Clinical Molecular Biochemistry at the Department of Experimental Medicine, University of Rome Tor Vergata and Committee Chairman "Emerging Technologies Division" at the IFCC. In two days, the program continued with contributions from the following main topics: "Liquid biopsies in laboratory medicine: current status and future perspectives", "Insights/updates in Laboratory Medicine of Kidney Diseases and "The challenges of laboratory medicine in the management of thyroid diseases".

Distinguished lecturers from abroad, prof. Evi Lianidou from Greece, prof. Joris Delange and prof. Damien Gruson from Belgium, prof. Pradeep Dabla from India and prof. Santiago Fares-Taie from Argentina kindly accepted our invitation and, together with Slovenian experts shared their great knowledge and experience to the participants of the congress. We were also happy and honoured to have prof. Jovičič, a Secretary of EFLM, in our midst. We are confident that the scientific programme of this congress will contribute to the further development of clinical chemistry and laboratory medicine in Slovenia.



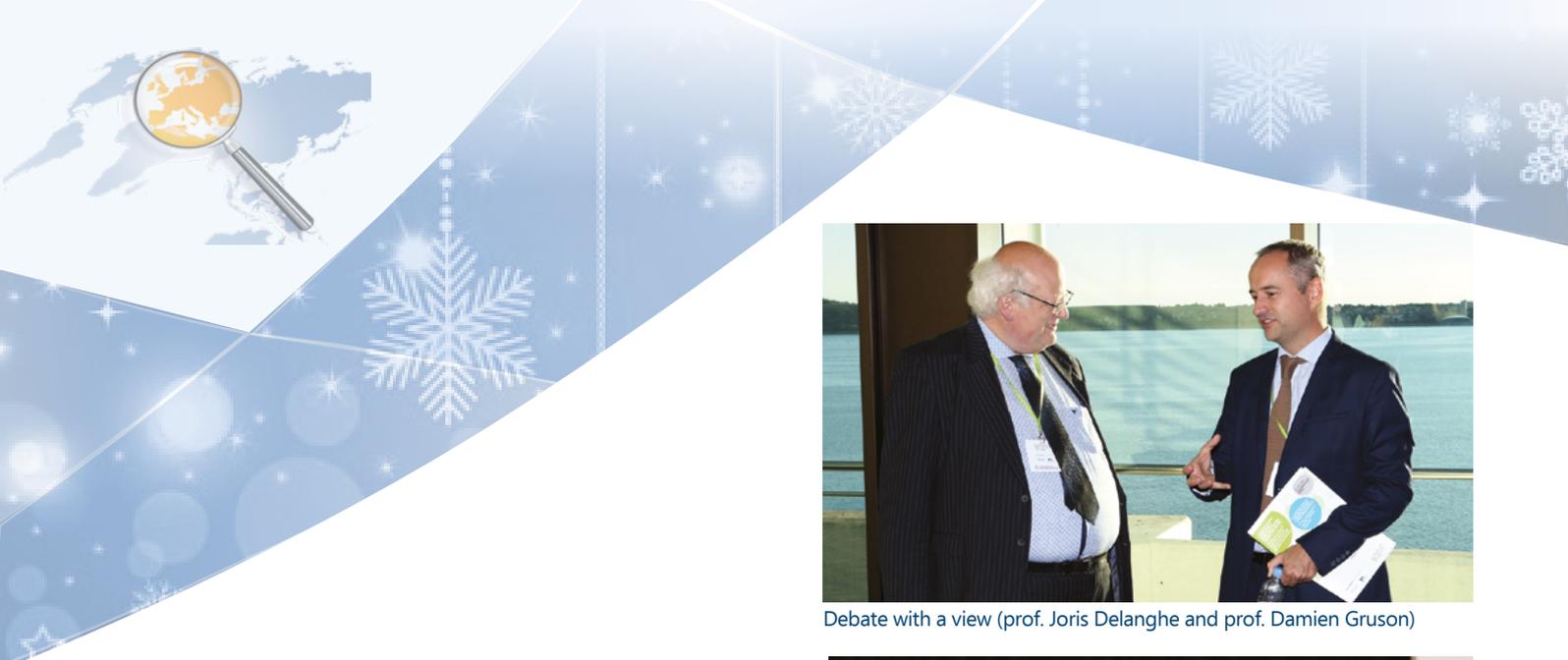
From the left: prof. Evgenija Homšak, President of the Scientific Committee; prof. Sergio Bernardini, Mag. Lidija Gobec, President of Slovenian Association of Clinical Chemistry and Laboratory Medicine and President of the Organising Committee, prof. Joris Delanghe, prof. Snežana Jovičič, EFLM Secretary.

At this congress, a special concern was dedicated to Young Scientists (YS) in laboratory medicine. In the symposium »Young Scientists in Laboratory Medicine«, the activities of an IFCC Task Force for YS, their projects and the visions for the future's activities, the possibilities for cooperation, and networking in Europe and worldwide were presented.

Continuing with the presentation of a newly established Slovenian YS Task group, research works of Slovenian YS and the presentation of Slovenian Journal of Laboratory Medicine: »Laboratory Medicine«, the opportunities for YS activities and development in Slovenia, were emphasised.

SZKKLM, with delivering the bursaries, additionally stimulate the participation of YS at the congress. This year, five young participants received bursaries for active involvement in congress. Moreover, SZKKLM encourages the attendance of the pre-graduate students of Laboratory Medicine at the congress, with entrance to both days free of charge.

The parallel program of the Congress of Laboratory Medicine Engineers and Technicians added important topics: Challenges of emergency laboratory medicine, Examples of good laboratory practices and Free topics.



Debate with a view (prof. Joris Delanghe and prof. Damien Gruson)



Long distance lecture (Dr. Santiago Fares-Taie from Argentina)



Prof. Sergio Bernardini started the congress with the plenary lecture "Future of Laboratory Medicine with Emerging New Technologies, Big Data and Artificial Intelligence"

At the Poster session, not only limited to symposia topics, 53 scientific works and professional achievements were presented. An essential part of the programme was also educational workshops by the sponsors and an exhibition of laboratory and medical equipment.

At the congress, the Slovenian Association for Clinical Chemistry and Laboratory Medicine conferred awards to several clinical chemists in recognition of their outstanding work in the Association and for their contribution to the development of clinical chemistry and laboratory medicine in Slovenia.

And at the end (but not the least important), live lectures and live meetings and talks with colleagues as well, after a long time of Covid-19 isolation, were a real satisfaction and pleasure for almost 300 participants of the congress.

For more information: www.szkklmkongres.si



Slovenian Association of Clinical Chemistry and Laboratory Medicine (SZKKLM) EB members with foreign guests.

44th Annual Conference of the Association of Clinical Biochemists in Ireland

Reported by Jennifer Brady, Heloise Tarrant, Ciara Cuning, Ruth Cullen, Michéal Ryan and Amy Gillick

The Association of Clinical Biochemists in Ireland (ACBI), founded in 1967, is the EFLM National Society in the Republic of Ireland. The ACBI promotes the highest standards of practice in Clinical Biochemistry and prioritises the education and training of its members. The annual conference is a highlight of the educational calendar. The 44th annual conference was held in Cork on 14-15th October 2022. The venue was the Kingsley hotel, on the banks of the river Lee and a short walk of the vibrant city centre. As the ACBI's first 'in-person' conference since 2019, this occasion afforded a very welcome opportunity to renew or make new professional links and friendships, after a turbulent 24 months which included great challenges arising from the COVID-19 pandemic and a criminal cyber-attack which had a severe impact on our laboratory IT systems in May 2021.

Following a welcome from the conference organising committee chair, Dr Séan Costelloe, the opening address was delivered by Dr Jennifer Brady, President of the ACBI. Dr Brady extended a warm welcome to all the national and international speakers and delegates. Dr Brady extended a special welcome to the EFLM President Prof Tomris Ozben and EFLM Member-at-Large Dr Pilar Fernandez-Calle, who then provided an overview of EFLM activities and officially opened the conference.

The first session focussed on rare diseases. Anne Lawlor, gave the carer's perspective as mother of an adult child with 22q11 deletion syndrome (DiGeorge syndrome). Hearing the patient perspective is so important to us in laboratory medicine and was a fitting way to begin the conference. Ms Lawlor is the founding member of 22q11 Ireland, a parent-led voluntary organisation advocating for and raising awareness of this complex rare syndrome. She spoke of her daughter, who is a member of the 22q11 YEEP (Young Expert by Experience Panel) group, which gives the lived experience so essential to developing supports and care pathways for people impacted by this condition.

The second speaker was Prof Sally-Anne Lynch (UCD School of Medicine), a member of IRDiRC (International Rare Disease Research Consortium) taskforce on indigenous populations. Her research group has identified several rare disease genes which has translated into effective genetic tests to aid clinical diagnosis. She spoke in particular of the work leading to their recently published catalogue of over 100 inherited rare disorders found amongst the Irish Traveller population and how it can be used to facilitate a targeted genetic approach to clinical diagnosis of rare diseases in this ethnic group.

The final speaker of the first session was Dr Alana Ward (National Rare Diseases Office) who shared with us her work in designing rare disease care pathways for the Irish healthcare system. She reminded us that while rare diseases are individually of very low incidence, together they account for a very significant proportion of the hospital population, and that 4.2% of the Irish population have a rare disease diagnosis by age 17 years. Through this national initiative, optimal care pathways have been developed for 29 rare diseases. Furthermore, by identifying common patient needs and healthcare professional interventions across the different pathways a model template for a rare disease care pathway has also been developed. Implementation of these pathways is now a priority.

Dr Antoinette Tuthill, Consultant Endocrinologist at Cork

University Hospital, opened session 2 with an engaging talk on "What to expect when you're expecting...Menopause".

Dr Tuthill outlined some of the challenges of peri-menopause diagnosis and the multisystem symptoms of menopause. Many women are unaware of the effects and are confused about benefits and risks of treatment options. The talk also highlighted menopause associated biochemical alterations and development of metabolic syndromes including cardiovascular disease and type 2 diabetes.

Dr Tuthill discussed recommended effective treatments to relieve menopause symptoms, & emphasised that women who start Hormone Replacement Therapy (HRT) within 10 years of menopause derive cardiovascular protection. Dr Tuthill drew upon the example of HRT use as the most effective therapy for osteoporosis prevention and vasomotor symptoms. The talk also pointed towards research based evidence of long term risks associated with HRT and the importance of biochemical monitoring throughout therapy.

The talk progressed to testosterone replacement in menopause. The NICE Menopause Guideline (NG23) and the British Menopause Society recommend that a trial of conventional HRT is given before testosterone supplementation is considered and that testosterone replacement should only be considered in women who complain of low sexual desire after a biopsychosocial approach has excluded other causes. Baseline testosterone levels should be measured and reassessed 3 to 6 weeks after commencement. Dr Tuthill stressed that clinical assessment of potential adverse effects is equally important as some women are more sensitive to physiological levels of androgens.

Dr Jennifer Brady, Consultant Clinical Biochemist at Children's Health Ireland then provided an overview on expanded Newborn Bloodspot Screening. She outlined that screening is not just about the laboratory testing, but is an entire programme, all elements of which are monitored by key performance indicators. She outlined how ADA-SCID was added to the programme in the Republic of Ireland in May of this year. The second part of the talk discussed the wider context of newborn screening and highlighted differences in national programmes. Some of the possible reasons as to why including the mechanism by which a particular country evaluates and considers evidence about candidate conditions. The talk finished with a look to the future and the possibility of incorporating genomics into newborn screening.

After a hearty lunch, we were heard a fantastic showcase of the excellent work being carried out by ACBI members. Oral presentations were selected from submitted clinical case and research abstracts. The case presentations included a case of Meropenem-induced hypertriglyceridaemia in an infant (Dr Pamela Chiwara), a case of reverse pseudohyperkalaemia in two patients with varying WBCs and H indices (Dr Lucille Kavanagh-Wright) and aberrant visual identification of icterus in a specimen from a patient with severe neutropenic sepsis on Eltrombopag therapy (Dr Briedgeen Kerr). The research presentations included an evaluation of capillary-based sampling and laboratory measurement as a convenient adjunct primary care testing model for management of patients with chronic disease (A Kearney) and 'Calcium verification with a difference?' (Ayisha Azeez).

This was followed by an interaction section which has become a



very popular element of the conference and certainly helps to keep attendees 'on their toes'. Ruth Cullen (Mater Misericordiae University Hospital, Dublin) delivered an excellent session which covered a range of dilemmas faced in the Biochemistry Laboratory and discussed available best practice guidance to help deal with such dilemmas.

These included:

Ammonia analysis and the guidance for laboratories to accept all blood samples for ammonia even if the quality of the sample has been compromised. [2018 MetBioNet Guideline for the Investigation of Hyperammonaemia]

How laboratories deal with samples/tests which exceed defined Lipaemic/Haemolysis index cut-offs and measurement of HIL IQC in laboratories. We were reminded that a recent survey of practice in the management of haemolysis, icterus and lipaemia in blood specimens in the United Kingdom and Republic of Ireland (Costelloe et al. *Annals of Clinical Biochemistry* 2022, Vol 5 (4) 222-233) found that only 37% of respondents measured HIL IQC with variable frequency.

Testing strategies for thyroid dysfunction with reference to the NICE guideline (NG145) – Thyroid disease – assessment and management.

Minimum re-testing interval for Vitamin B12 as recommended in the UK National Minimum Retesting Intervals in Pathology Guideline [G147] (updated March 2021)

Inclusion of non- HDL and TC:HDL ratio in the lipid profile provided by laboratories with reference to the 2019 ESC/EAS Guidelines for the management of dyslipidaemias and NICE Clinical Guideline 181.

After a short break, the opening talk of the Nutrition and Health session was titled "Vitamin D status in the Irish population – cause for concern, and if so, how to address?" by Prof Kevin Cashman, University College Cork. It was brought to our attention that in the fast-moving field of vitamin D, approximately 15 papers are published per day, certainly making it difficult to keep up with! Prof Cashman reminded us of the important roles of vitamin D in calcium homeostasis, muscle and other non-skeletal roles - association studies suggest a link between vitamin D deficiency and cardiovascular diseases, diabetes, inflammatory, some infectious and immune disorders, certain cancers and a higher mortality. The presentation highlighted the variability when defining vitamin D deficiency and the goal of the Vitamin D Standardization Program (VDSP) to standardise vitamin D analysis and minimise the impact of method related differences. Prof Cashman gave us valuable insight into vitamin D status in the Irish population with 12% of Irish adults and 21% of teenagers being

vitamin D deficient (<30nmol/L). He stressed the lack of vitamin D intake in the Irish population in comparison to other European countries and how this micronutrient malnutrition in the public could be reduced by increasing diversity of food, supplementation and food fortification.

The second talk of the session was titled "Dietary Management of Epilepsy" by Dr Niamh McSweeney, Consultant Paediatric Neurologist at Cork University Hospital. Dr McSweeney reminded us that there are over 250 inborn errors of metabolism with epilepsy, a third of which are treatable and some of which respond well to the correction of the metabolic deficit. Epilepsy is known to affect 1-2% of the population and the presentation covered the many reasons that a seizure might occur including failure of brain metabolism, vitamin/cofactor deficiency, accumulation of toxins/abnormal storage material, disruption of neurotransmitters or associated malformations of cortical development. Dr Sweeney presented several examples of inborn errors of metabolism amenable to targeted treatments, thus making metabolic epilepsy a good example of precision/personalised medicine.

Despite being the final presentation of the day, 'Obesity Disease Management including bariatric surgery and its biochemical implications' by Diarmuid Duggan was eye-opening and full of character keeping us all alert and interested. Mr Duggan, a dietician, discussed the consequences of weight bias and the role of genetics, epigenetics and the environment in obesity disease. The presentation focussed on obesity disease management (lifestyle medicine, medications, endoscopy and surgery) and covered the different surgeries available and the lifelong follow up required by these patients.

The second morning of the conference welcomed Professor Robert Flanagan, retired Consultant Clinical Scientist and Director of King's College Hospital NHS Foundation Trust's Toxicology unit. In his talk "Laboratory Investigations Post-mortem" Professor Flanagan provided a fascinating insight into how alongside available evidence, biochemical investigations aid post-mortem analysis. He described the complex collection and analysis of samples obtained from deceased patients, such as blood, hair and vitreous humour in post-mortem investigations and the subsequent challenges of sample degradation/contamination and interpretation without defined reference ranges and possible change in analyte behaviour after death.

The Irish National Accreditation Board (INAB) Technical Assessor Ruth O'Kelly then brought us through the upcoming changes to the ISO15189 Standards for medical testing laboratories. Risk management strategies and service agreement procedures are key points of this revised edition. Provided samples can correctly be traceable to the patient, the processing of potentially compromised samples, or samples lacking the prescriptive identification requirements is revised in a clinical decision-making section which now provides greater consideration to the potential consequences of not processing such samples given the current rigidity to the service requirements. Ruth's talk reiterated how compliance to standards maintains laboratory service quality in a patient focused manner and provided a fantastic foresight before the implementation of this updated standard to our medical laboratories.

Dr Bernard Gouget, of the University Hospital in Paris Descartes, in his fascinating talk "working in the Lab (from Home)", explored the rapid evolution of communications and computer technologies

and with it the growing potential of the health care system to utilise this technological renaissance. The talk teased a futuristic, and almost surrealistic world where artificial intelligence and machine learning would be innovative to patient diagnosis, management, personalised medicine and clinical research. It was exciting to imagine the profound implications for biochemistry laboratories regarding sample processing, automation, decision limits, reference ranges, and the availability of patient data such anticipated advancements potentiate. Dr Gouget also discussed advancements to the pre-analytical phase including drone-delivered patient samples. It was exciting to discuss such vast scientific potential in its infancy and appreciate the opportunity for communication between laboratorians, clinicians and patients unlimited by distance.

The session was concluded by Dr Pilar Fernandez-Calle of the Department of Laboratory Medicine Hospital Universitario La Paz in Madrid. Dr Fernandez-Calle's talk "Building a Biological Verification Database", drew from expertise gathered over a formidable career and discussed the challenges overcome, and the incredible work performed by an EFLM task-force in systematically reviewing within and between-subject biological variation data available on Westgard.com website. This data is paramount to set analytical performance, in method specification, IQC and EQA interpretation. Dr Pilar Fernandez-Calle explained the limitations that non-standardised, obsolete or direct methodologies have imposed on the integrity of certain biological variation data and the associated clinical consequences. She described how more robust data was generated from indirect methodologies in multicentre patient studies based on specific inclusion criteria, coefficient of variation, confidence intervals and reference change value. In a published Variation Data Critical Appraisal Checklist a specialised criteria for production of reliable and translatable biological variation was established. This engrossing presentation revisited and revitalised historical work imperative to the daily functioning of medical laboratories.

The final session of the meeting commenced with Associate Professor of Pharmacy in Trinity College Dublin, Dr Tamasine Grimes delivering a talk on "hospital-based pharmacy". Dr Grimes utilised examples to encapsulate a patient's pharmaceutical/therapeutic journey undertaken under the supervision of their clinician. She discussed challenges associated with drug cost and availability, reconstitution time/half-life and bioavailability as well as treatment schedule adherence. From this presentation arose the conversation about the importance of communication between not only patients and clinicians, but colleagues within in the healthcare system and how inviting communication between healthcare disciplines like the biochemistry laboratory and the requesting clinicians potentiates enhancement of the overall patient focused healthcare service.

The final speaker was Dr Maria Donovan, Lecturer in Clinical Pharmacy at University College Cork. Dr Donovan focused primarily on the aminoglycoside antibiotic gentamicin in her presentation "Unlocking the Potential of Therapeutic Drug Monitoring for Optimisation of Dosage Regimens". Dr Donovan discussed how through a specialised computer programme, a given dosage of gentamicin can be monitored in a virtual simulator to mimic its affect, breakdown, half-life and side effects in a simulated environment. This thought-provoking presentation instigated conversations on the limits and potential of such technology to predict the journey and behaviour of other commonly monitored therapeutic drugs in the body.

The event concluded with conference organising committee chair Dr Seán Costelloe presenting the medals for best clinical

case to Dr Briegen Kerr (Cork University Hospital), best research presentation to Aisha Azeez (Mater Misericordiae University Hospital) and the Geraldine Roberts medal for best poster to Dr Jennifer Brady (Children's Health Ireland) for a poster presentation relating to AST Assay Interference due to Macro-AST.

The conference was highly enjoyable and the educational value was exceptional. The efforts of the conference organising committee at Cork University hospital, the ACBI and the event sponsors to make the meticulously planned event a reality for the first time since the COVID-19 pandemic was universally recognised and appreciated. Attendees not only enjoyed the novel science, but the networking opportunities and conversation that only comes with in-person gatherings. The ACBI would like to thank EFLM for supporting this event and to Prof Ozben and Dr Fernandez-Calle for attending the meeting.



Dr Jennifer Brady, ACBI President, Ruth O'Kelly (speaker), Dr Séan Costelloe, Chair conference organising committee, Dr Pilar Fernandez-Calle, Prof Tomris Ozben, Dr John O'Mullane (session chair), Dr Bernard Gouget.



Dr Jennifer Brady presenting Briegen Kerr with her prize for best Clinical Case presentation.





The XVI National Clinical Laboratory Congress (LabClin 2022) was held from October 19 to 21 in Malaga

Reported by Mercè Ibarz, SEQC-ML Vice-President

The symposium 'The Clinical Laboratory and the Environment' addressed the need to train professionals for responsible consumption and proper waste management

The XVI National Clinical Laboratory Congress (LabClin 2022), addressed for the first time the relationship between the clinical laboratory and the environment, following the initiative led by the European Federation of Laboratory Medicine (EFLM) and the Task Force: Green Labs (TF- GL). In the "Clinical Laboratory and the Environment" symposium, specialists in waste inspection, environmental health, and health law explained various topics important for the environment, such as the development of efficient environmental projects and the need for training in responsible consumption and correct waste management.

The organizing entities of the Congress, which was held in person from October 19 to 21 at the Trade Fair and Congress Center of Malaga (FYCMA), were the Spanish Society of Laboratory Medicine (SEQC^{ML}), the Spanish Medical Biopathology-Laboratory Medicine Association (AEBM-ML), and the Spanish Clinical Laboratory Association (AEFA).

Dr. Imma Caballé, director of the CatLab clinical analysis laboratory and president of the Congress Committee of the Spanish Society of Laboratory Medicine (SEQC^{ML}), stated that, as a group, "clinical laboratory professionals have a direct responsibility towards society to provide the maximum benefit to the environment". In addition, she noted that each and every clinical laboratory professional can act responsibly to prevent the deterioration of the environment, and raise awareness of the climate emergency. The symposium aimed to make these professionals aware of the

real or potential impact that their work has on the environment, as well as the urgent measures that must be taken to achieve a minimum of harmful emissions and to carry out efficient and responsible consumption that has a direct impact on the energy economy of the institutions. As stated by Dr. Caballé, "we have detected that, with the training and awareness of laboratory personnel, their involvement in responsible consumption and in the correct segregation of the waste they generate daily due to their professional activity improves considerably".

Dr. Caballé stressed the need to train laboratory staff using guidelines that are in line with the 2030 Agenda for sustainable development and the dissemination of its 17 SDGs; contributing in this way to achieving the European Union's objective to achieve zero atmospheric emissions in the year 2050. "The laboratory staff has a direct responsibility in terms of responsible consumption and the transition of institutions towards a circular economy and energy efficiency", she added.

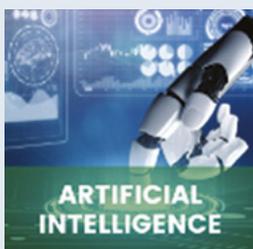
Waste segregation - Through training, clinical laboratory professionals must learn to properly classify laboratory waste in order to later measure its volume. "It must be taken into account that the waste generated in clinical laboratories requires unique treatment because they are biological and chemical products," stressed Dr. Caballé.

Likewise, the president of the Congress Committee of the Spanish Society of Laboratory Medicine (SEQC^{ML}) pointed out that the correct segregation of waste carried out by clinical laboratory professionals "contributes to the institution being able to comply with the requirements of applicable regulations and with regulatory bodies at the environmental level. In addition, it makes it easier to apply a circular economy and increase prestige and a healthy image for its corporate social responsibility in the face of climate change."

UPCOMING EFLM EVENTS

Forthcoming EFLM webinar: Artificial Intelligence in laboratory medicine

Reported by Ales Kvasnicka, Member of the EFLM Communication Committee



Date: 13 December 2022 at h. 18:00

We have one more live webinar before the end of the year available only for EFLM Academy members at the [EFLM e-learning platform](#)! This webinar will cover a hot topic that we will be encountering more and more often, and that is artificial intelligence in laboratory medicine. It has become unfeasible for laboratory specialists to last and interpret the amount of data and average medical laboratory produces per day, despite missing information on medical indication of the test request. Conclusively, the next step must be to implement electronic assistance to screen this data and provide proposals on follow-up testing or interpretation, based on probability calculations.

In this lecture, Janne Cadamuro (Dept. of Laboratory Medicine, University Hospital Salzburg, Paracelsus Medical University, Salzburg, Austria) will provide an overview over some basic aspects of artificial intelligence, current applications in health care and especially in laboratory medicine. Additionally, you will hear about the benefits, the limitations, regulations and possible hazards when implementing artificial intelligence algorithms. You can find more about speakers, read abstracts and listen recorded webinars on-demand on the e-learning platform.

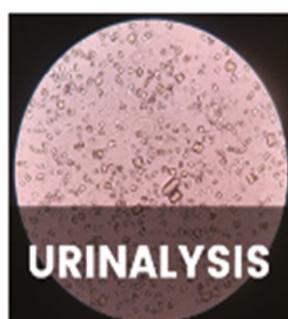


PAST EFLM EVENTS

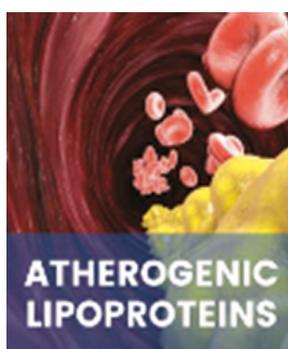
Past EFLM webinars

Reported by Ales Kvasnicka, Member of the EFLM Communication Committee

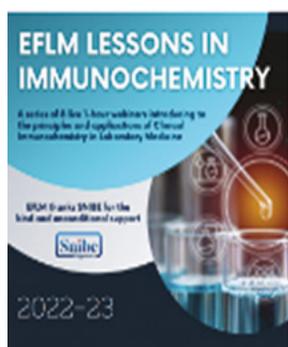
In 2022, during October and November, three great EFLM Academy webinars were held at the EFLM e-Learning platform. Webinar participants could attend interesting lectures about the update of the European urinalysis guidelines, atherogenic lipoproteins and EFLM Lessons in Immunochemistry. If you missed one of these amazing webinars, we strongly recommend you to visit [EFLM e-Learning platform](https://www.eflm.eu/e-learning) and listen to on demand webinar. If you are not EFLM Academy member sign up [here](#) (webinars are available only for EFLM Academy members).



On 25th October 2022 there was a webinar regarding the EFLM Update of the European Urinalysis Guidelines led by Timo Kouri (Clinical Chemistry, Helsinki University and Dept Clinical Chemistry, HUSLAB, HUS Diagnostic Centre, Helsinki, Finland). This webinar reviewed the updating work of the old ECLM European Urinalysis Guidelines (Scand J Clin Lab Invest, 60, suppl 231, 2000) taken by the EFLM Task and Finish Group Urinalysis (<https://www.eflm.eu/site/page/a/1466>). The major sections of urine tests include Preanalytics (test requisition, patient preparation, specimen collection and preservation), Hierarchy of measurement procedures, and analytical details from Chemistry (strip tests, quantitative protein measurements), Particle counting (microscopy, automated counting), and Bacteriology (urine cultures including automation, and non-culture methods including MALDI-TOF MS). The participants were introduced to the new graded recommendations which were proposed from GRADE levels of evidence (A-D).



On 22nd November 2022 the EFLM e-learning platform hosted a webinar: „Atherogenic lipoproteins: which, when, and how to quantify“ led by Michel Langlois (Past-President of the Royal Belgian Society of Laboratory Medicine (RBSLM) and the Belgian Atherosclerosis Society, the EFLM Representative for the European Atherosclerosis Society (EAS), and Chair of the EFLM Working Group-Guidelines in 2017-2021). The participants were introduced to the topic of atherogenic lipoproteins from many different perspectives. Despite overwhelming evidence that LDL-targeted therapies effectively reduce atherosclerotic cardiovascular disease (ASCVD) in the population, many individuals experience ASCVD or progression of atherosclerosis despite not having elevated LDL-cholesterol or even low concentrations <1.8 mmol/L (70 mg/dL). This residual risk indicates that a focus solely on measuring LDL-cholesterol is not an optimal strategy for all patients. Therefore, increasing attention is being focused on the assessment of comprehensive, residual risk markers – calculated non-HDL-cholesterol, apoB, and Lp(a). The participants were introduced to the strengths and weaknesses of emerging and traditional lipid tests for ASCVD risk assessment and prevention.



On 24th November 2022 the webinar „EFLM Lessons in Immunochemistry - Androgen excess or deficiency: the role of testosterone and free testosterone“ was presented by three great speakers: Annemieke Heijboer (Endocrine Laboratory Amsterdam UMC University Medical Center AZ Amsterdam, Netherlands), Sabine Hannema (Dept of Paediatric Endocrinology Amsterdam University Medical Center Amsterdam, the Netherlands) and Brian Keevil (Clinical Biochemistry Manchester University NHS Foundation Trust Manchester, UK). In this webinar the participants were introduced to some clinical (pediatric) cases regarding androgen excess and deficiency and the importance of the testosterone measurements. The next part was dedicated to the principles of methods to measure (free) testosterone and the pitfalls going with these methods like standardization and cross reactivity. To conclude, some pre- and post-analytical issues going with testosterone measurements, like timing of blood withdrawal, influence of BMI and age and potential contamination were discussed thoroughly.



UPDATES ON EFLM PUBLICATIONS

Reported by Ales Kvasnicka,
Member of the EFLM Communication Committee

The new, race-free, Chronic Kidney Disease Epidemiology Consortium (CKD-EPI) equation to estimate glomerular filtration rate: is it applicable in Europe?

A position statement by the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)

Pierre Delanaye, Elke Schaeffner, Mario Cozzolino, Michel Langlois, Mario Plebani, Tomris Ozben and Etienne Cavalier, on behalf of the Board members of the EFLM Task Group Chronic Kidney Diseases
<https://doi.org/10.1515/cclm-2022-0928>

This opinion paper focuses on new EFLM recommendations discussed on behalf of the Board members of the EFLM Task Group Chronic Kidney Diseases further described by a following abstract: "The EFLM recommends not to implement the race-free Chronic Kidney Disease Epidemiology Consortium (CKD-EPI) equation in European laboratories and to keep the 2009 version of the CKD-EPI equation, without applying a race correction factor. This recommendation is completely in line with a recent Editorial published by the European Renal Association who has also proposed to change to a novel equation only when it has considerably better performance, trying to reach global consensus before implementing such a new glomerular filtration rate (GFR) estimation equation. In Europe, this equation could be for instance the new European Kidney Function Consortium (EKFC) equation, which is population-specific, developed from European cohorts and accurate from infants to the older old. Beyond serum creatinine, the estimating equations based on cystatin C will probably gain in popularity, especially because cystatin C seems independent of race. Finally, we must keep in mind that all GFR equations remain an estimation of GFR, especially rough at the individual level. Measuring GFR with a reference method, such as iohexol clearance, remains indicated in specific patients and/or specific situations, and here also, the role of the clinical laboratories is central and should still evolve positively in the future.". Authors conclude that in Europe, this equation could be for instance the new EKFC equation, which is population specific, developed from European cohorts and accurate from infants to the older old. Beyond serum creatinine, the estimating equations based on cystatin C will probably gain in popularity, especially because cystatin C seems independent of race. Finally, we must keep in mind that all GFR equations remain an estimation of GFR, especially rough at the individual level. Measuring GFR with a reference method, such as iohexol clearance, remains indicated in specific patients and/or specific situations, and here also, the role of the clinical laboratories is central and should still evolve positively in the future.

CHANGING OF THE GUARD IN EFLM NATIONAL SOCIETIES

Reported by Silvia Cattaneo, 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.

Croatian Society of Medical Biochemistry and Laboratory Medicine

Dr. Ivana Čelap (University Clinical Hospital Center "Sestre Milosrdnice", Zagreb) is the new President of the Croatian Society of Medical Biochemistry and Laboratory Medicine replacing Prof. Daria Pasalic. While, Prof. Marija Grdić Rajković (Dept of Medical Biochemistry and Hematology, University of Zagreb) is the new EFLM National Representative replacing Prof. Jasna Lenicek Krljeza.

Czech Society of Clinical Biochemistry

Doc. Ing. Drahomíra Springer (Inst. of Clinical Biochemistry and Laboratory Medicine, First Faculty of Medicine, Charles University and General University Hospital, Prague) is the new President of the Czech Society of Clinical Biochemistry replacing Prof. Jaroslav Racek.

Polish Society for Laboratory Diagnostics

Prof. Katarzyna Winsz-Szczotka (Dept of Clinical Chemistry and Laboratory Diagnostics, Medical University of Silesia, Katowice) is the new President of the Polish Society for Laboratory Diagnostics replacing Dr. Anna Mertas.

Dear colleagues

It was a big success. The [IFCC General Conference 2022](#) and the celebration for the 70 years of IFCC Global Leadership of Laboratory Medicine took place in Brussels with a lot of enthusiasm, a lot of joy, a lot of memories and a lot of good perspectives for the future.

Almost all the IFCC people, the people who make it possible that this organization plays such an important role in the laboratories all over the world, were there. And a lot more people participated through the IFCC new software. We have watched the EB people, the officers, expressing their thoughts. We discussed with them important matters formally or informally.

The “top” and most moving and at the same time most entertaining moment of the celebration were the presentations by the Past Presidents. We have travelled with them from the beginning till today. The journey was full of wonderful moments, of difficult decisions,



of hard work, of hope, of determination. All this history was presented with a lot of humour and good fun.

In the [November issue of the eNews](#) you can read many presentations about this unforgettable event. In the President’s message Prof Khosrow Adeli offers a detailed report of every particular day of the conference. And then many attendees give their own description of the event.

Let’s hope that IFCC will always have the chance of organizing such successful events!

Dear colleagues enjoy the reading of this issue, enjoy the event!

Katherina Psarra



Recognizing World AIDS Day and Those Working Towards Elimination

Dec 1st marks World AIDS day, a day for awareness, remembering those who have died, and celebrating victories. Two innovative UNIVANTS recognized sites have achieved victories in their quest for HIV elimination: Croydon University Hospital and University Alabama Birmingham Hospital.

To learn more about best practices for HIV diagnosis, treatment and elimination, visit: www.univantshce.com

Calendar of EFLM events and events under EFLM auspices

Do not miss the opportunity to have your event listed here. Apply for EFLM auspices! For more information [visit here](#) or email eflm@eflm.eu

<p>13 December 2022</p> <p>EFLM Webinar: Artificial Intelligence in laboratory medicine</p> <p>on-line, Click here for information</p>	<p>09-10 February 2023</p> <p>Labquality Days - International Congress on Quality in Laboratory Medicine and Health Technology 2023</p> <p>Helsinki (FI), Click here for information</p>
<p>9-10 March 2023</p> <p>BIOMEDJ 2023</p> <p>Paris (FR), Click here for information</p>	<p>20-21 May 2023</p> <p>Clinical mass spectrometry: validation and accreditation of IVD and Laboratory Developed Test (LDT) in the new “Regulation EU 2017/746” era</p> <p>Rome (IT), Click here for information</p>
<p>21-25 May 2023</p> <p>EuroMedLab 2023 25th IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine</p> <p>Rome (IT), Click here for information</p>	<p>20-21 June 2024</p> <p>9th International Symposium on Critical Care Testing and Blood Gases</p> <p>Saint Malo (FR), Click here for information</p>