





she could attend lectures. Only during the Second World War, when the men went to the front she got the chance to do research. This resulted, after continuous opposition from the university, in a job as full-time researcher. Her article about the discovery of the insulin radioimmunoassay, that she co-wrote with Solomon Berson, was initially refused by Science. Luckily, thanks to the tremendous perseverance of this woman, we have experienced a revolution in measuring hormones in the last century and today, in 2022, we are able to diagnose and treat someone with a hormone disorder within a very short timeframe.

Unfortunately, we still encounter challenges in measuring hormones accurately. There are problems with sensitivity, specificity, interferences and standardization. To most laboratory specialists these are well known challenges. There are many initiatives to improve standardization for instance. In case of steroid hormones, LC-MS/MS methods improved issues regarding specificity. Unfortunately, not every clinical laboratory is able to use LC-MS/MS for their hormone measurements. And for some hormones that would benefit from improvement, like free T4, the LC-MS/MS methods are currently too time consuming and complex to perform in daily practice. So, automated immunoassays are still the most frequently used tests to measure hormones in clinical laboratories.

What is less commonly known is that apart from the sensitivity, specificity, interferences and standardization issues, these immunoassays frequently suffer from inaccuracies in specific populations often based upon alterations in the serum matrix seen. Most manufacturers and some laboratories validate and verify tests only using serum samples from healthy or relatively healthy subjects. Also external quality assurance schemes or standardization programs mainly use serum samples from healthy subjects. Using these samples, hormone tests often seem to function relatively well. When we challenge these tests with samples from specific patient groups, these tests sometimes fail. Here, I will discuss some examples of specific patients groups that have challenging matrices that lead to falsely high or falsely low results and thereby the risk of misdiagnosis. Patients undergoing hemodialysis is such a patient group. Most automated 25OH Vitamin D immunoassays have troubles measuring samples from these subjects, leading to falsely high or low results.<sup>2</sup> Recently we and others showed most cortisol, testosterone and fT4 assays have severe problems in serum samples from this patient group as well.<sup>3,4,5</sup> Currently, we do not know what the exact reason is for these sometimes fierce deviations in this patient group. Pregnant women are another example of subjects that have serum samples that can lead to falsely high or falsely low results using immunoassays.<sup>2,4,5,6</sup> Their high binding globulin concentration might play a role in these deviations. The same problem is part of the troubles that are observed in samples from women using oral contraceptives.<sup>6,7</sup>

Also patients in the intensive care unit have serum samples that give false results in immunoassays. This is for instance shown in 25OH Vitamin D and cortisol tests and might be due to their low binding globulin concentrations.<sup>2,5</sup>

To my surprise, even in samples from persons with osteoporosis it is shown that 25OH

Vitamin D assays have difficulties to measure accurately.<sup>8</sup> It is not always the serum matrix that is responsible for population specific problems. In the 2010s, several studies reported that black Americans had a lower total 25OH Vitamin D concentration than white Americans, but at the same time had a similar level of calculated bioavailable 25OHD due to lower vitamin D binding protein (VDBP).<sup>9</sup> Finally it turned out that the lower VDBP concentrations were falsely low, due to the monoclonal VDBP assay they used.<sup>10</sup> This monoclonal assay did not measure the GC1F variant as good as the GC1S variant. GC1F is most abundant among those of African ancestry, whereas GC1S is most abundant in the European populations. Immunoassays using polyclonal antibodies and LC-MS/MS methods did not find racial differences in serum levels of VDBP. Think about all groups of patients that have not been tested up till now which might also give problems in certain immunoassays. In our clinical laboratories the majority of samples we receive are from patients, not samples from healthy persons and in addition from a diversity of genetic backgrounds. It is therefore highly important that we know more about the effects and the order of magnitude of physiological or disease states on our immunoassays to know whether the results can be used for clinical diagnosis and follow up. It is also crucial for standardization programs to know whether the standardization they aim for will only work in a certain group of healthy subjects or in samples from everyone. So, we need more studies to give direction which kind of samples might be prone to significant problems. As laboratory specialists, we need to validate and verify the immunoassays we use in the populations we get samples from to perform our measurements. We are responsible for the results we report to our applicants and which are used for diagnosis and follow up. Manufacturers need to be encouraged to improve their assays to make these less matrix dependent and applicable to all humans. Meanwhile this issue affect IVDR as well. Some CE marked assays might not be as good as your own developed method. Think about a CE marked 25OH Vitamin D immunoassay compared to an in house 25OH Vitamin D LC-MS/MS method for a pregnant woman or a person undergoing hemodialysis. If I were the patient, I know which method I would prefer.

In conclusion, our laboratory tests should be able to cope well with samples from a high diversity of persons. A lack of diversity in samples used to validate and verify our immunoassays has limited our view of the quality of these tests. In line with the call for more diversity and sensitivity in our society, a greater diversity and sensitivity in laboratory medicine development is needed. We have some catching up to do.



Laboratory tests should be able to cope well with samples from a high diversity of persons





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## EFLM RESEARCH GRANT

# Winners of the EFLM Research Grant 2022

Reported by Michel Langlois, Chair EFLM Science Committee



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 € 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 research project proposal and a detailed budget with a list of all required products, necessary to perform their study.

We received 21 excellent applications for the 2022 EFLM Grant, including 5 from countries whose members are eligible for the Vic Blaton Grant. Applications were evaluated by a committee composed of the Chair of the EFLM Science Committee (Michel Langlois), the Chair of the EFLM Education and Training Committee (Daria Pasalic), and one member of the EFLM Executive Board (Dalius Vitkus). The evaluation process was conducted according to the criteria established by the EFLM Executive Board in 2021. Evaluation included a scoring for study design and feasibility, innovative value of the scientific project, potential of the study to generate relevant findings in laboratory medicine and improve patient outcome, relevance of previous work of the applicant to the proposed study, and scientific and professional experience of the applicant (CV).

Based on these criteria, the selected applications for 2022 are those from:

### **Anna CAROBENE, Italy**

"EuBIVAS: biological variation data for bone turnover and metabolism biomarkers"

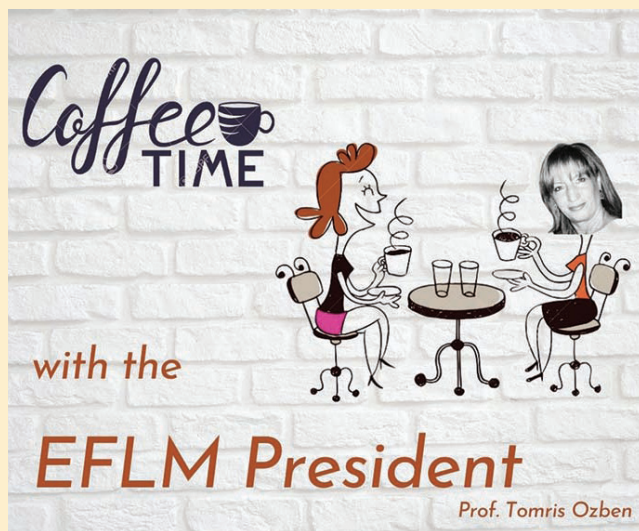
### **Katerina TOSHESKA-TRAJKOVSKA, North Macedonia (Vic Blaton Grant)**

"Impact of oxidized low density lipoprotein (oxLDL) and anti-oxLDL antibodies on cardiovascular health"

We thank all participants sending an application for the EFLM Research Grant 2022.

We strongly encourage young scientists to continue to apply for EFLM Grants in the following years. Although the applicants' CVs are evaluated to see their capacity to complete the project and use the grant properly, in future evaluations the relative scoring for CV will be minimized using new revised criteria for the EFLM Research Grant, in order to allow young promising scientists to compete with senior applicants.

## COFFEE WITH THE EFLM PRESIDENT



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 four distinguished EFLM officers: Sanja Stanković, Eser Sozmen, Darko Cerne and Miron Sopić.

I would like to thank my guest EFLM officers 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 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



### Coffee with Sanja Stanković



**When did you join EFLM? What is your current role in EFLM? What are the activities of the functional unit in which you work?**

I am very happy, indeed proud to say that I grew up professionally in the spirit of the IFCC/EFLM. Although EFLM was established in 2013, I remember its predecessor societies. As the member of the Serbian National Society, I was the Chair of the Committee for cooperation with BCLF,

EFCC (later EFLM) and IFCC from 2012 to 2016. Through years, I was educated under the umbrella of these organizations, gain a lot of experience and skills on the ongoing EFLM activities. Since 2004, I have been a member of several Scientific and Organizational Committees of EFCC Symposium for Balkan region held in Belgrade. Now, I am the President of Serbian Society for Clinical Laboratory Medicine and Science (SCLM) that has joined as affiliate member to EFLM family in 2020. Currently, I am involved in EFLM WG Cardiac Markers, EFLM Task Force: Green Labs and EFLM Task Group "European Lab Day." I joined EFLM Working Group Cardiac Markers (EFLM-WG-CM) as a corresponding member in 2012, in accordance with my primary field of expertise. I am very proud to be a member of this WG led by Adj. Prof. Päivi Laitinen, consisted of respected experts, great enthusiasts, hardworking persons and, above all, wonderful friends, with whom work all these years were a real pleasure. This WG initiated the CAMARGUE (CARDiac MARKer Guideline Uptake in Europe) study and performed several surveys (2006, 2010, 2013, 2019) on the implementation of the guidelines encompassing the use of biomarker testing in acute myocardial infarction, heart failure and dyslipidaemia. In addition, this group undertook a

small pilot study of North American laboratories to compare practice. Consensus-based recommendations from European Atherosclerosis Society (EAS) and EFLM addressed present and future challenges in the laboratory diagnostics of atherogenic lipoproteins was published in 2020. EFLM-WG-CM has started collaboration with European Society of Cardiology (ESC) in order to have also clinician view for the use and implementation of cardiac markers. This present survey is its joint project with the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC), the Association for Acute CardioVascular Care (ACVC) and the European Society for Emergency Medicine (EUSEM). New international survey is currently underway. Since November 2021, I joined to newly formed EFLM Task Force (TF) "Green Labs". And now during this informal conversation, I can tell you I'm honestly thrilled with your idea. My interest in sustainability goals has also greatly increased through some formal academic activities in Serbia, so your visionary initiative to lead the way in implementing sustainable clinical laboratory practice in Europe came for me in the right moment. Although, our TF is very young, you gathered great professionals, and must be proud on all its achievements.

#### **What do you like most about EFLM?**

I like its proactive approach and activities that have already been pursued in the WG and TF of EFLM. EFLM has done a lot over the past years for laboratory medicine community. It actively supports modern educational efforts, postgraduate training, intensive exchange of experience. It has made considerable progress harmonizing the professional education of laboratory medicine practitioners across Europe. Also, EFLM has become a major partner for EU health authorities. I like strategic conference, opportunity to discuss long-reaching strategic issues of laboratory medicine in Europe with key opinion leaders. The cooperation with the IFCC respective WGs in joint scientific projects is of great importance. As women who lives in the Balkans, I have to notice and express my satisfaction with the fact that EFLM push for gender equity; women are full partners in power and in leadership.





laboratory of the biggest Covid hospital in this part of Europe), with 240 employees, of whom 40 medical biochemists and 175 medical laboratory technicians, who performed more than 15 million tests in 2021 and accepted more than 2 million samples. This job put my management and organization skills to the test, and have to often decide on the spot, and solve a lot of problems. But that's exactly the sort of work that attracts me the most, because I hate routine and love to be intellectually challenged. The 2020 (independent) job satisfaction survey showed that our cohesive and effective laboratory staff is the most satisfied staff in the whole UCCS. The people with whom I work with are very enthusiastic and motivated, and it is of great importance. By communicating with other departments and clinicians I gain a different perspective, which I can apply to our own processes. As Chair of General Director's Advisory Board in UCCS and Chair of Serbian Committee for Biochemistry in Ministry of Health Republic of Serbia, I have the opportunity to influence on public politics in the field. Work with under and postgraduate students at the University, together with intensive research work makes me very

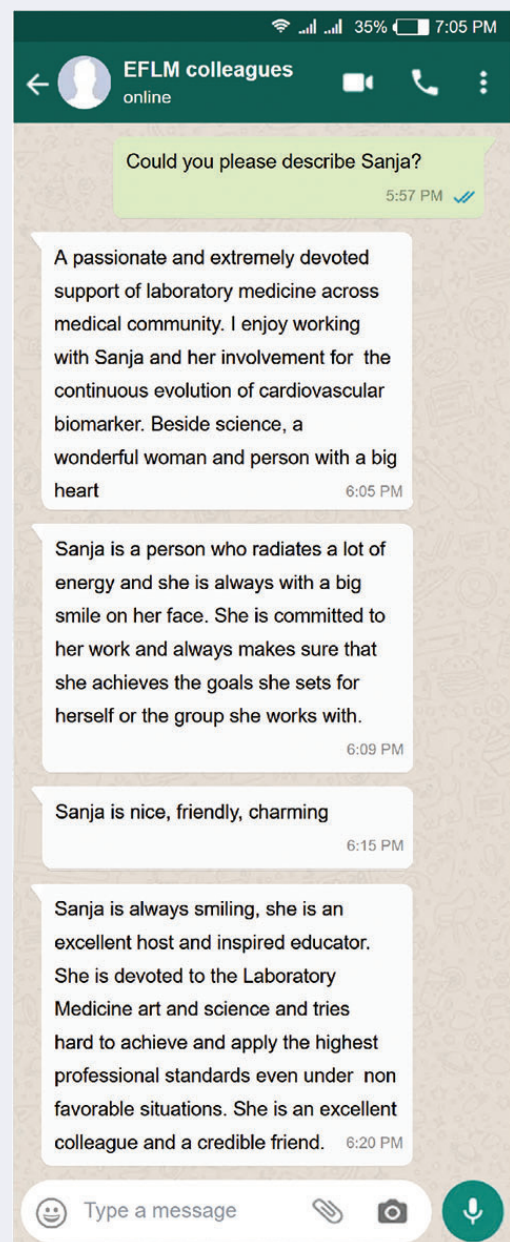
### How do you see EFLM in 10 years from today?

The decade ahead I see EFLM as the organization very well prepared to face with all challenges and prepared for the opportunities ahead. EFLM will extend its activities, constantly triggering new initiatives and solutions within the framework of its strategic plan. In parallel, I expect enlargement of the membership and continuous increase the visibility not only in professional circles, but in the public eye. It will be focused on encouragement and strengthening the interactions between laboratory medicine personnel, continues training and education. The links between national societies will be stronger, they will cooperate in joint scientific sessions on different congresses, exchange experiences. EFLM will face with an emerging trend in precision medicine, with the use of artificial intelligence and machine learning to improve the traditional medical practice, allowing earlier interventions and tailoring better and economically personalized treatments. EFLM will force implementation of new technologies to improve patients' outcomes (molecular diagnostics, pharmacogenetics, etc.). EFLM will force interdisciplinary collaboration, moving the laboratory medicine focus from operational excellence to integrated clinical care, where laboratory personal will be a real partner to clinicians and improve patients' outcome.

### What do you like about your current job?



I do what I love and I am really grateful for where I'm at and excited for where I'm going. Position of the Head of Center for Medical Biochemistry of the University Clinical Center of Serbia (UCCS), one of Europe's largest healthcare providers, is a real test of leadership. It is a referral center of tertiary healthcare level in the Republic of Serbia, organized in 15 locations (including



happy. The organization of international annual symposium SERBIS (Serbian Biomarker Symposium), arranged to bridge clinical and laboratory work, emphasizing the importance of teamwork and interactions between professionals of various disciplines that attracts more than 1400 attendees move our profession back into the centre of the medical dialogue.

### **Do you have a role model? If you do, what makes this person so special?**

I must admit that I had multiple role models through my life, depending of the different age and aspects of my life. When I think about it now, my first role models were my parents. Although I did not realize how influenced I was getting by them, they helped me grow as responsible person imparting me some of life's most important lessons. My teacher was my next role model. She was awesome teacher, caring, energetic enthusiastic, honest, experienced, determined, organized, but she was very strict. During the University education, and even later, there were very good professors and mentors. Years have passed, and it seems that I found someone who better fits my situation and aspiration so I replaced some role models with new ones. I noticed that everything I learnt from my role models was my choice, I improved my own characteristics, become the best version of myself, but also I learnt from the mistakes and promise myself that I will react differently in the future, and hope to become someone else's role model.

### **What are the qualities you appreciate most about people?**

The qualities I appreciate most about people are: diligence, accountability, creativity, positivity, authenticity, self-confidence, communicativeness, resiliency, ability to prioritize, ability to stay calm under pressure, persistence, integrity, respect, flexibility, cooperation, ridership, patience, objectivity, team builder, strong will and fighting spirit, collaborative, great listener.

### **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?**

Yes, I have some hobbies. They are a way to relax and unwind. Long walks in nature, swimming, hiking with my friends. Cooking and making sweets boost my creativity. I had great interest in playing chess during my Gymnasium education. I really enjoy in reading books, and writing poems. I enjoy fashion magazines. Shopping is also very relaxing for me. I played piano for more than 8 years, attending the music school. I like to watch sports, especially football, ski jumps, formula 1 race. Sometimes, movie and popcorn (or ice-cream) night at home. Dinner in some of excellent Belgrade restaurants or clubs with my friends, birthday celebrations, etc. Very rare I schedule time to do nothing, helping me rejuvenate physically and mentally. But I am absolutely passionate about travelings all over the world and taking countless photographs.

### **What are your greatest challenges?**

Challenges at work are a part and parcel of professional life, and they make it interesting. When we face challenges, and overcoming them, we become stronger. Being a leader is in itself a challenge. There are few challenges that laboratory managers should solve how to influence the transition to a value-based lab and expand services. Over time, analytics and artificial intelligence

will drive better outcomes for patients, financial stakeholders, etc. One of the greatest challenges is maintaining effectiveness over time. It's part of the leader's role to maintain his own enthusiasm and drive, and to communicate and transfer them to others. The challenge is also to avoid burnout. It is a challenge not only for leaders, but it can affect the whole organisation. Leader burnout is a product of being overwhelmed by the workload, the frustrations, the stress, and the time demands of the position, multiplied by the number of years spent in it. It's crucial that leaders learn to recognize the signs of burnout and find ways to renew their commitment. And maybe more threatening „burn-down“ - the loss of passion, enthusiasm and intensity that can come with familiarity and long service. One of the greatest challenges is shouldering the responsibility to deal with those aspects of yourself that can keep you from being an effective leader. Very important challenge is to motivate people and train them to effectively work as part of a team. Sometimes, but very rare some employees feel frustrated for some reason. They try bring others down with their constant complaints and negativity. They usually do not accept changes, new activities or perspectives. They believe that their way is the only right way of doing things.

### **Are you good in time management?**

I learned very early on how important time management is. Completing two schools in parallel, attending several sections and choirs, preparing for numerous competitions, I coordinated my responsibilities to maximize my effectiveness and productivity. This practice helped me a lot in further education and especially during this time to avoid stress and produce high-quality work. As I grew-up I became better organized and more productive. Although it's not easy sometimes, I try to accept responsibilities that I can actually accomplish and not to compromise the quality of my work because of the quantity.

### **What do you value most about your country and its culture?**

Serbia has always been at the world's crossroads, where East and West meet in a wonderful collision of various culture and wonderful nature. It has inherited products of cultural influences which can be recognized in its numerous museums, archaeological sites, churches. Serbian art is the synthesis of elements of Romanic, Gothic and Byzantine art. Orthodox monasteries and churches are the masterpieces of Serbian medieval painting and architecture, are on the UNESCO's list of world's cultural heritage. Aarchaeological site Lepenski Vir (7,000 –5,500 years BC), discover testimonies of people who created the first myths of the man and the Earth; Vinča archaeological site-oldest metallurgy culture (5,000–4,500 years BC) formed in the first true pre-historic metropolises; Roman construction, Felix Romuliana, which was recognized as part of the World Heritage by UNESCO are only a part of the rich Serbia's cultural heritage. The warm welcome, hospitality, kindness and openness of our people is, simple and natural. Tourists describe Serbians as last romantics, as people with dignity and pride for whom ancestral lines and 'homeland' were very important. Serbia has widely flowing Danube River, and the largest gorge in Europe. Famous according the night clubs and famous floating raft clubs, the joyful atmosphere of the EXIT festival, world's largest trumpet festival. Guča Trumpet Festival and numerous other festivals. Serbian cuisine is rich and diverse: barbecue, beans, gibanica cheese pie, ajvar, fish broth, Banat sausages and slivovitz, quince brandy, etc. Serbia is the second world producer of raspberries. When you mention Serbia,





you think on the scientists whose brilliant discoveries changed the course of history like Nikola Tesla, Mihailo Pupin, Milutin Milankovic, the world best tennis player Novak Djokovic, and many famous actors and artists. (Source: Serbia highlights, National tourism organisation of Serbia).

### Do you have a pet?

No, I do not have. In my childhood, I had a dog in my grandmother's garden, and spend every free moment playing with him, feeding and training him. He was very loyal companion that guarded me. I learnt to value animals. But, above all, I value their freedom in their natural environment, to be outside, instead to spend their lives in the apartment in the city center.



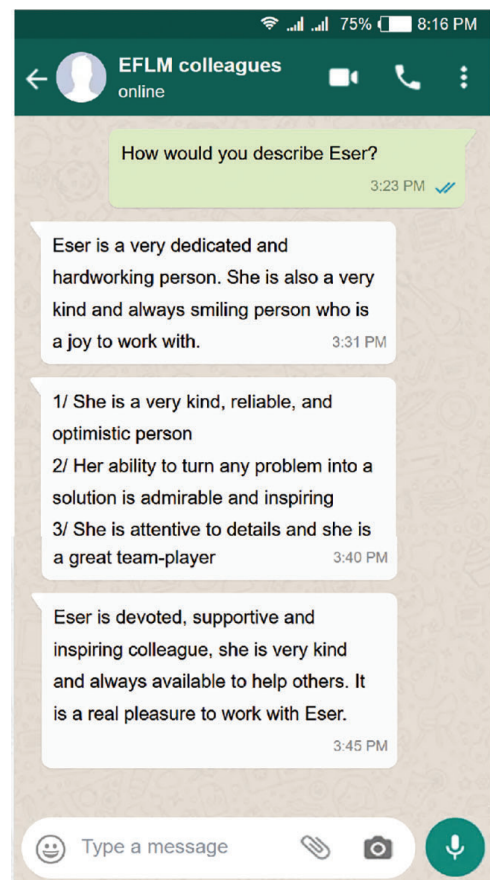
### Coffee with Eser Sozmen

#### When did you join EFLM? What is your current role in EFLM? What are the activities of the functional unit in which you work?

In 2010, I joined the EFCC Science Committee, Postanalytical External Quality Assessment (WG-PEQAS) as a full member with an invitation from Prof Sandberg who was chair of the group. This group has published 2 manuscripts resulting from the activities in which I was involved. In 2018, I've been accepted as a full member of EFLM Working Group: Congresses and Postgraduate Education (WG-CPE) which is completely suitable for my background. Since Jan.2021, I've been working as chair in this WG and also serving as a member of the Education Committee. This group is responsible for the evaluation of applications for auspices, updating the Speaker bureau, and organizing post-graduate education programs. Although the pandemic limited live-educational activities, I'm very glad that we organized 2 virtual courses (Medical statistics and Leadership) last year (2021) which were very successful and 100 participants attended each of the courses. We've 2 new courses for 2022; one of them is titled Lectures in Immunochemistry and sponsored by SNIBE. The 2nd course is on »How to write and publish: a good scientific and professional articles“ in which most of the speakers are Editor-in-Chief or associate editors of outstanding journals.

#### What do you like most about EFLM?

I like the environment and sincerity in EFLM group, I feel like a



member of a big family. All members I know, are very helpful, open-minded, and supportive. I'm very proud to be a member of working groups in EFLM. EFLM teams consist of sincere and warm people; they try to include everyone, and in general, the meetings are easy-going and progressive. Each person's positive traits are tried to be highlighted. In summary, this positivity and human connections increase my energy.

#### How do you see EFLM in 10 years from today?

Since the day it was founded EFLM moved forward with sure and wide steps and I'm pleased to be a witness to this process. I believe that EFLM will be a great help for its members to build sound relations and remove boundaries set by outer causes.



### What do you like about your current job?

I'm currently working in Ege University as Professor and I have three main duties.. One of them is teaching, being with students increases my motivation. I teach students of the Faculty of Medicine, postgraduate/doctorate and specialty students, it makes me very happy to be with students of all ages and share my knowledge. My second important task is, I work as the head of the lysosomal storage diseases laboratory in the Department of Child Health and Diseases. As a medical biochemist, I love working in the laboratory. When you work in a routine laboratory, you get professional satisfaction when you enable a patient to be diagnosed with the results you acquire. What excites me most is developing new test assays in the Lab. My third task is to do research and project work, I like both working with in vitro studies and collaborating with clinicians. At the end of the day, it is gratifying to reach even little information about healthy living for the benefit of people.

### What are the qualities you appreciate most about people?

I can say that being honest and frank is the trait I value the most. I love hardworking, intelligent, and determined people. I greatly appreciate people who can look at things positively, produce new ideas, and have various abilities.



### 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 feel very lucky with the choice of career that I've made, I enjoy what I'm doing and the responsibilities don't feel like a burden to me. I find ways to improve my work-related knowledge and

skills; even in my free time I love doing research and learning new information, as well as learning from other people. I've practiced different hobbies before such as playing guitar, playing the bongo, ballroom dancing... Sewing and knitting are the activities that calm me the most, even though I can't always spare much time for them. I guess I'm a little bit inconsistent when it comes to my hobbies, I can say that I enjoy and appreciate many things in life, and I'm always open to learning new skills. I love to travel and see new places with my family and my friends. And I love to make organizations, we're organising a FEBS-Advanced Lecture Course on Lysosome in October.2022, in Turkiye. (<https://lysosome2022.febsevents.org/>)

### How would your spouse (wife, husband) describe you?

Someone that always looks at the world through glasses of optimism; graceful and compassionate.

### What are your greatest challenges?

My biggest personal challenge would be over-multi-tasking. Since I am bored of focusing on the same assignment for too long, I do many things at the same time, at least I try to do it. Apart from my duties as a faculty member, I try to carry out tasks such as developing tests and kits in my Teknokent company (Dia4Me), conducting TS/EN ISO 15189 audits in clinical laboratories as a lead assessor, and participating in EFLM WG studies. Sometimes, even though I'm stressed, I can't give up on any of my tasks, unfortunately.

### Are you good in time management?

I can confidently say that I am good at time management. I've always had a fulfilling and busy life both personal and work-wise. Therefore, in time, I got better and better at how to most efficiently use my time to maintain a balanced lifestyle. There are my kids and husband, my parents, my students, my projects and travels that I need to take into consideration and finally, there is also me and my personal time and space.

### What do you value most about your country and its culture?

The history and the people. I have so much respect and appreciation for our previous generation and how much they have sacrificed for this country to become free and united. Turkiye has a rich culture with a long history which I find very unique. Especially the city I live in is a typically Mediterranean city, and its people are free-minded and compassionate. İzmir, the city I live in, has 8500 years of history starting as a neolithic settlement and it's known to be a city of strong women. Its name is derived from a mythical warrior Amazon queen Smyrna and I believe this name and story reflect positively on the city.

### Do you have a pet? (Please feel free to share its photo with us, if you like)

We don't own a pet currently, but we had 2 love birds and 2 dogs before. In the beginning, we got our pets for the sake of our kids, and afterward, they became very important to me too. It is very sad to lose a pet that you loved and spent so much time with; I believe they had a happy life and it was lovely to have them around.

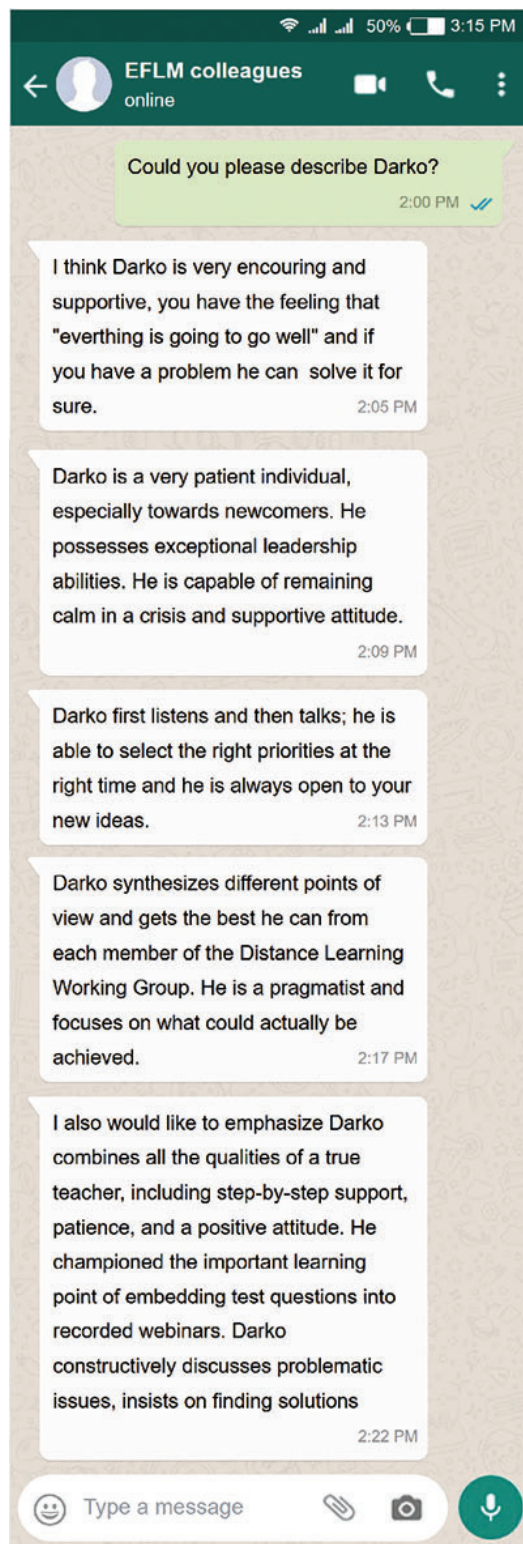




## Coffee with Darko Cerne

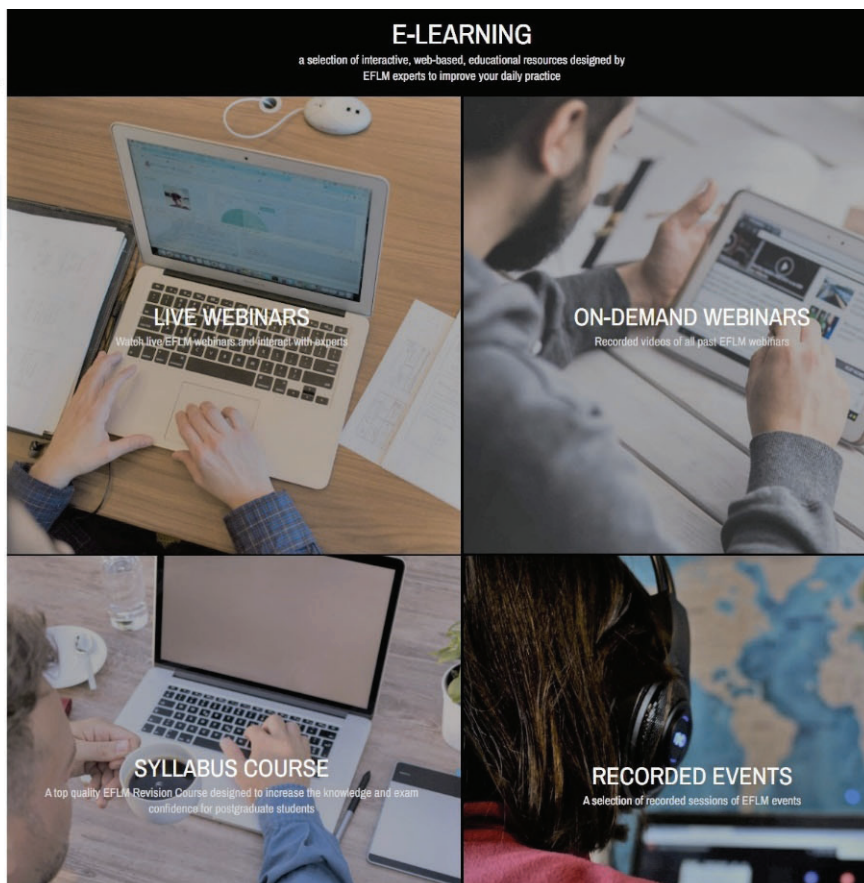
### When did you join EFLM? What is your current role in EFLM? What are the activities of the functional unit in which you work?

I joined the European Communities Confederation of Clinical Chemistry and Laboratory Medicine (EC4) in June 2006. I still keep the certificate of enrollment and compliant with the requirements for the European Specialist in Clinical Chemistry and Laboratory Medicine (EurClinChem). When the EC4 dissolved in 2017 I became a member of the EFLM. I was elected to the Working Group for Distance Education and e-Learning (WG-DE) in 2019, at the suggestion of our National Society. After being a member for a year I become a chair. WG-DE belongs to the Education and Training Committee. The mission of the WG-DE is to establish and maintain efficient distance learning channels between EFLM and its National Societies, to organize EFLM webinars, to record lectures of EFLM Officers and lectures at various congresses etc. WG-DE gained in particular importance during the COVID-19 epidemic, when public life was paused and there were no get-togethers in the form of congresses. Learning, training and meeting with the help of IT tools has become a reasonable alternative. Based on this experience, another tectonic change occurred last year. Previous chair dr. Daniel Rajdl has developed an excellent E-learning platform based on the Moodle system, which offers a really huge number of E-learning tools and is widely used today in the field of academic education. Our main mission was to manage this EFLM E-learning platform (maintenance and further development, organize webinars with the use of Moodle tools, guide EFLM authors during creation, publication and maintenance of new E-learning materials, create E-learning materials based on EFLM officers' lectures). In 2021, a decision was made to transfer the responsibility for the construction of educational platform, its maintenance and further development to an external company MZ Congressi. This greatly facilitated the work of our group, so we were able to importantly increase the number of organized webinars. This year we will organize as many as 17 webinars. To summarize, our main mission now is to attract large audience participation to EFLM webinars. I invite you to become a regular visitor of our EFLM webinars and new E-learning platform (Figure 1).



### What do you like most about EFLM?

What I value most about EFLM is the fact that it represents a common platform for laboratory medicine at European level, that is, of all European National Societies and members. Importantly, there is power in number and unity. This contributes greatly to the recognition of our profession throughout Europe. This is the only way we can be better heard by our regulators. The EFLM is now taking the initiatives to implement important projects at European level, such as Biological Variation Database, Laboratory Exchange



**Figure 1.**

A new EFLM E-learning platform at <https://www.eflm-elearning.eu/site/>

At this moment a new EFLM E-learning platform offers: 1) Live webinars; 2) On-demand webinars; 3) Syllabus course; and 4) Recorded events.

Programme or most recent project "Green Labs". EFLM is a very active organization moving fast and efficiently.

### How do you see EFLM in 10 years from today?

In the coming years, EFLM will certainly gain a lot of importance and visibility, in line with the rapid developments in the field of laboratory medicine. EFLM will become the leading organization in the field of standardization and harmonization of professional activities in Europe. In addition to strengthening its role in the field of education for laboratory medicine practitioners, it will certainly strengthen its importance in the field of research. I truly believe that the organization will also become well recognized by the general public and will become more influential in policy, legislation and regulation.

### What do you like about your current job?

What I love most about my work is the tremendous development of laboratory medicine. Laboratory medicine is one of the youngest medical sciences. The history of laboratory medicine dates back to ancient times, when they recognized the organoleptic properties of biological samples, such as altered color and odor of urine, and associated them with diseases. The level of development of the profession in individual periods enabled the development of chemistry, physics, medicine and pharmacy, so it is understandable that the first attempts at chemical analysis of biological samples (urine, blood) appeared only in the 17th century. The critical mass for the emergence of laboratory medicine as an independent discipline, which is also a science, was reached in 1867, when Joseph von Scherer founded the independent laboratory Medizinischer Institut für Chemie und Hygiene in Würzburg. Since then, in just 155 years, a tremendous development has been made. Today,

laboratory medicine has a decisive influence on three quarters of all healthcare decisions, although less than 0.1% of all healthcare professionals are laboratory professionals. Professional practice in such an important field of medicine is never boring.

### Do you have a role model? If you do, what makes this person so special?

Of course, I have role models, in every period of my professional and personal growth. In high school, a professor from the faculty gave presentation that inspired me to enroll in that faculty, later on he arranged me a scholarship, helped me to find the job, he was a mentor in my master's thesis, and finally he was my wedding mayor. Later at work, my mentor at doctor's thesis accompanied me carefully throughout my whole academic career to become a professor and also beyond. All the role models had one thing in common, unselfish concern for not only my professional but also my personal growth. And that is what I'm trying to give now to my younger colleagues.

### What are the qualities you appreciate most about people?

I value honesty the most. In my professional life, I appreciate people who are willing to do something good for the community. In private life, I appreciate people who are able to love unconditionally.

### 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?

In my youth, I was mountain running. There was nothing more beautiful than watching the sunset somewhere above 2500 m





### **Are you good in time management?**

I think I am quite good at time management. In fact, I have to be a good time manager to fulfill all the obligations.

### **What do you value most about your country and its culture?**

The quality of life in Slovenia is at a very high level. Nature is truly beautiful and picturesque. Since we have always been at the crossroads of Slavic, Germanic and Romanesque nations, we have a truly diverse culture, excellent food and fine wines. These are the reasons why renowned tourist publishers, such as Lonely Planet, regularly proclaim Slovenian particular province as destinations of the year. We are a very sporty nation. For example, we can boast the highest number of Olympic medals or the number of top and extreme sportiest per capita. We really love nature and we love to travel. We are only two million of us, but you can find Slovenians everywhere in the world.

### **Do you have a pet?**

When the kids were still home, we had a cat and a parakeet. Our cat Pika was really a great hunter, she was able to catch woodpeckers and squirrels. When the children left home, they brought us the dog named Tacek with the explanation that my wife and I will not be bored. And we really spent a lot of beautiful events together (Figure 3). Now Tacek is getting older and our joint trips are getting shorter.

and then still have plenty of time to safely come home. With kids we were hiking, mountaineering, cycling and traveling. When the children left home, my wife and I were mountain biking. Once we got the dog, we started hiking and mountaineering again. Now that the dog is getting older, we are thinking about cycling again, this time with electric bikes. Spending free time in nature is common to all these activities (Figure 2). I love to travel a lot.



**Figure 2.** Spending free time in nature is common to all my activities.

### **How would your wife describe you?**

My wife Simona said: "I admire his positive attitude endlessly. That is why we spend every day much easier. We have a smile every day. He plans his time very well and that makes easier to find time for being together. He knows how to hear and listen to me and makes the decisions finally. When it's not easy for me, he knows how to find the right words of encouragement, wishes... I like that we both enjoy sport activities which connect and relax us. I like that things that are not close to him, e.g. paintings or music, he always listens and tries to enjoy it as well. These are the things I admire strongly and endlessly about him and that is why I love him very much. But I don't like that in every job he does perfectionistically. That is why I don't like he accepts all jobs. "

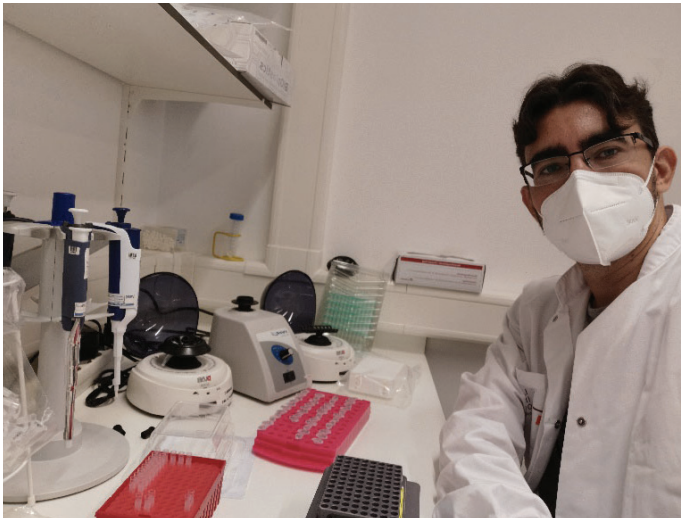
### **What are your greatest challenges?**

The most difficult challenge for me is how to reconcile the roles of husband, father, now grandfather and responsibilities at work. It was always necessary to find a balance. Family has always meant a lot to me.



**Figure 3.** We have a dog named Tacek.

When the children left home, they brought us the dog named Tacek with the explanation that my wife and I will not be bored. Indeed, Tacek tailored out last 10-years life and, in summary, I do not complain about that.



**When did you join EFLM? What is your current role in EFLM? What are the activities of the functional unit in which you work?**

I have been introduced to EFLM's activities in 2016 during BCLF meeting in Tirana. Since then I have been following various EFLM initiatives, courses, and of course, the latest achievement, the EFLM academy. Currently, I have the honor to be appointed as the Chair of the EFLM Task Group Young scientists. We are still a very young task group. Our main goal is to motivate young scientists and laboratory medicine enthusiasts to work together on the promotion of laboratory medicine, as well as to integrate them into EFLM programs like EFLM Academy and EFLM LABX, and to give them support for participating in EFLM conferences.

**What do you like most about EFLM?**

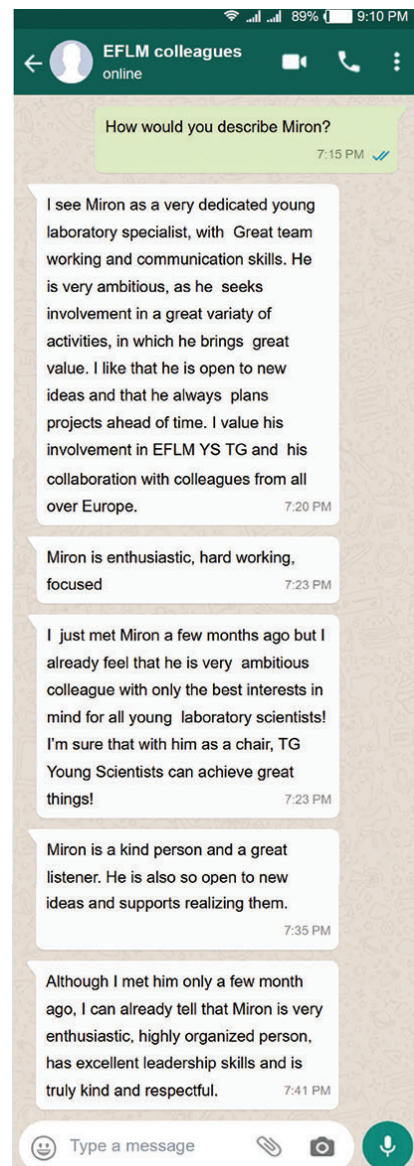
The EFLM gives plenty of opportunities for young scientists to improve their knowledge and skills. It involves them in task forces and groups so their voices can be heard. On the other hand, in this ever-changing field of ours (Laboratory Medicine), there are many challenges that could be overcome only through cooperation and dialog. EFLM creates a collaborative environment that facilitates interaction between peers and enables the field to move forward.

**How do you see EFLM in 10 years from today?**

Currently, we are living in the era of P4 medicine, and Laboratory medicine is for sure one of the most important pillars of that concept. New diagnostic tools are being developed on a daily basis including the utilization of complex omics methodologies and the development of machine learning algorithms for big data integration. We are approaching very quickly to the point where all these new concepts will be transferred from benchtop to bedside. Now, we need to embrace these changes that are coming our way and learn how to use new technologies to our advantage. I feel that during this process EFLM will have a crucial role. On one hand, by using all available resources for the knowledge transfer, EFLM will help raise a new generation of young scientists ready to tackle new challenges thus bridging the gaps between research and practice. On the other hand, EFLM will also have a very challenging task to lead the way in the standardization and harmonization of novel methodologies and diagnostic tools, enabling them to reach their full clinical potential.

**What do you like about your current job?**

I currently work as an Associate professor at the Department of Medical Biochemistry, Faculty of Pharmacy, University of Belgrade. Being a teacher and a researcher at the same time really makes my professional life very interesting. As a teacher, I have an opportunity to pass my knowledge and experience to the younger generations, interact with them and get inspired by their curiosity, and critically reconsider my own values and views through their eyes. It might sound a bit corny, but to me, teaching is a two-way street - a process which, if done properly, should result in both the teacher and the student being "upgraded". On the other hand, being a researcher opens up a whole different universe of possibilities, questions to be asked, and answers to be questioned. Dealing with the unknown and tapping into the dark can be very challenging but also very satisfying and rewarding. I often joke that research means that you search for something, and when you do not find it, you search, and search again and again, hence the term "re-search" 😊. As every professional development has ups and downs, I find it very comforting that by having a dual-aspect job, I can always focus on the positives and, without setbacks, confront the negatives. Therefore, juggling between teaching and research is very dynamic and, sometimes overwhelming, but never boring.







**Do you have a role model? If you do, what makes this person so special?**

To be honest, when I was much younger and very much so into drumming I had specific role models. They were accomplished drummers that managed to transcend their instruments and become one with the music they played. I would like to single out Steve Gadd, Tony Williams, John Bonham, Jeff Porcaro, Vinnie Colaiuta, and Gary Novak. Still to this day, I am amazed how they were able to stay present at the moment, self-aware and self-confident, but never letting their ego become more important than the notes they played. Nowadays, I admire people who are at the top of their game, but still down to earth, kind and generous to others.

**What are the qualities you appreciate most about people?**

I like people who are open-minded, creative, humorous, ready to give and receive positive critiques, and don't let themselves fall into the traps of self-righteousness. At least, I am striving to these goals myself.

**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?**

For a long time, I was super crazy about drumming. I started taking drum lessons during my twenties. I formed my first band during my studies and coincidentally had my first gig on the same day I passed my last exam. We have started to play more or less regular gigs at local clubs and festivals. Although our repertoire included various hard rock and blues covers, we were most famous as a Led Zeppelin tribute band. After some seven years, the band disbanded, and soon I started playing in a more blues-oriented band named Blues Machine. We made two records (in 2016 and 2018) and performed at numerous clubs and festivals across Serbia. However, in 2018 I was faced with the dilemma if I can manage to fit the band's busy schedule into my growing "day job" obligations. I realized it was not that realistic for me, and decided to finish my drumming career. My other passions include long-distance outdoor running and swimming. Nowadays, I spend my free time mostly trying to fit these activities within my daily routine.

**How would your spouse (wife, husband) describe you?**

Caring, funny, energetic, persistent and a bit melodramatic.

**What are your greatest challenges?**

Uh, this is a tough one, there are too many 😊. I guess, one of the greatest challenges for me is to find that balance between work time and free time. Also, not to engage in too many projects at the same time (which is sometimes too tempting, because they all look exciting) if not being able to fully commit to them.

**Are you good in time management?**

I would say that it depends on the number of tasks. Mostly, I am well organized, but there is always room for improvement, especially when too many unplanned tasks emerge. In those situations, I still have to learn to prioritize and find the optimal order of doing things. Currently, with all the available online tools I am trying to build up a more sustainable time management system.

**What do you value most about your country and its culture?**

Serbia is a small county, but with plenty of exciting diversities. From the great plains of the north to the high mountains in the south, changing landscapes are always followed by changes in people's characters, habits, customs, and cuisine. But one thing is pretty constant. The people are friendly and welcoming and will make you feel at home no matter where you go.

**Do you have a pet?** (Please feel free to share its photo with us, if you like)

No, I do not.



## EFLM BURSARIES

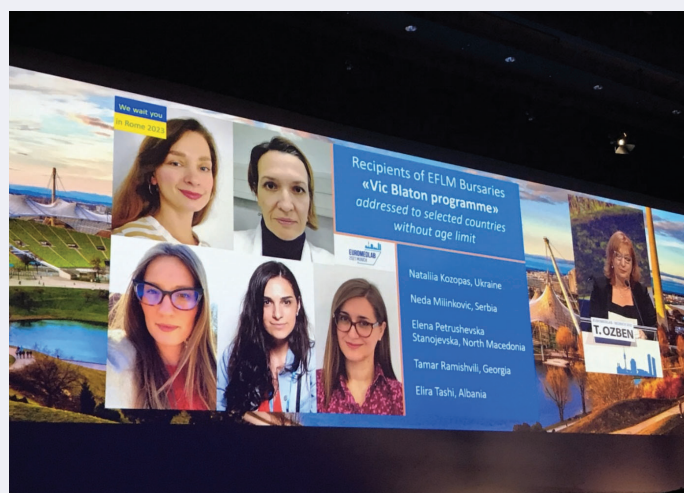
# EFLM Bursaries on occasion of the EuroMedLab 2022 in Munich

Reported by Silvia Cattaneo, EFLM Office

15 EFLM bursaries were assigned on occasion of the EuroMedLab 2022 in Munich covering travel, accommodation and congress registration. Bursaries were announced by the EFLM President, Prof. Tomris Ozben, during the Opening Ceremony. In addition, a get-together was organized on Monday April 11 to celebrate our bursaries' recipients: Jakob Adler (Germany), Erhan Canbay (Turkey), Marian Caro Miró (Spain), Blanca Fabre Estremera (Spain), Marie Lenski (France), Ivona Mitu (Romania), Agnieszka Ochocińska (Poland), Emmi Rotgers (Finland), Mariana Serres Gomez (Spain), Tirsia Van Duijl (Netherlands), Nataliia Kozopas (Ukraine), Neda Milinkovic (Serbia), Elena Petrushevsk Stanojevska (North Macedonia), Tamar Ramishvili (Georgia), Elira Tashi (Albania).

Join the EFLM circulating list and keep updated with EFLM initiatives. Future bursaries will be announced for the EuroMedLab Congress next here in Rome!

For information: [eflm@eflm.eu](mailto:eflm@eflm.eu)



The EFLM bursaries recipients together with the EFLM President and the Executive Board



## VACANCIES IN THE EFLM FUNCTIONAL UNITS

# Vacancies in functional units under the EFLM Education & Training Committee and Science Committee

Reported by Silvia Cattaneo, EFLM Office

EFLM Full National Society Members are invited to send nominations for the following open positions:

- **WG “Distance Education and e-learning” (WG-DE) - Deadline to send nominations: 15 June 2022**
  - 1 Full Member
  - 1 Young Scientist Full Member (≤ 35 years of age at the time of appointment)
- **WG “Laboratory Medicine Credit Points” (WG-LMCP) - Deadline to send nominations: 20 June 2022**
  - 1 Full Member
- **WG “Harmonisation” (WG-H) - Deadline to send nominations: 25 June 2022**
  - 1 Full Members
  - 1 Young Scientist Full Member (≤ 35 years of age at the time of appointment)

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

The term of office will be for 2 years starting immediately after appointment and ending on 31 December 2023. 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 Full 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 [eflm@eflm.eu](mailto:eflm@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. Together with the application, a short CV should also be submitted underlining the qualifications and prior experience and publications in the relevant area. 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 provided there is not another corresponding member from the same country.

## INTERVIEW WITH SENIOR LABORATORY COLLEAGUES

### Interview with Dr Carmen Ricos conducted by Dr Pilar Fernández Calle, EFLM Executive Board Member-at-Large



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

I was the first person in Spain to be appointed as responsible of a quality control department in a hospital laboratory service. I felt so lonely in this area that, since the beginning, I actively looked for other colleagues with same daily task. Some of us joined informally in the international congresses and in the 1990s we could form an expert group under the auspices of the Standards Measurement and Testing Program, leaded by Per

Hyltoft Petersen, recently dead.

When the Analytical Quality Commission from the Spanish National Society of Laboratory Medicine (SEQCML) started the compilation of all experiences about Biological Variation (BV) and created the BV Database in the Stockholm Conference, it was quickly understood the great relevance that it could have. Prof. James Westgard asked us to display these data in his webpage and we (with permission of our Society) agreed in order to disseminate this important knowledge worldwide.

These has been my lead motivations throughout my professional career: to contribute to the growth of the scientific knowledge and to share it and cooperate with the medicine laboratory community.



Force was created and the members of the Analytical Quality Commission of the Spanish Society of Laboratory Medicine (SEQC<sup>ML</sup>) entered the TG since the beginning, together with other European recognized scientists in this field. The Spanish group that created the BV database in 1990 and had been in charge of its update and maintenance since that moment, contributed to the new TF with their expertise. The great challenge of merging all those peoples has been, by contrary, taken as an advantage. To share different ways of work and different experiences in this field, led the group to a productive activity and to an enriching scientific and personal experience to all of us.

#### **How do you see the future of EFLM has to be?**

I think that EFLM has to continue creating new expert groups, with the aim to achieve common goals in laboratory medicine.

**The TG of Biological Variation Database 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 work in such a heterogeneous team? Could you describe your experience in the TG during your engagement?**

The EFLM TG-BVDB was formed by colleagues from Norway, the Netherlands, Great Britain, Italy, Spain, Turkey and Canada. First difficulty was the language, although soon a routine was developed in order to not to speak very quickly, to use visual help and to get used to the facial language of everybody within the group. Also, some differences in daily practices and workload, created some delays in certain occasions.

Because of my previous experience as the leader of the Analytical Quality Commission of the SEQC<sup>ML</sup>, I had the opportunity to contact colleagues with higher experience (Per Hyltoft Petersen, Callum Fraser, James Westgard, Linda Thienpont) and from them to open new relationships that allow me to know the way of working in other countries.

**Your field of expertise was Quality assurance. Could you name some major achievements, milestones and future challenges in that area?**

The major achievement is the enormous improvement of laboratory harmonization because of:

1. The wide use of Biological variation as performance specification for internal and external quality control, as well as for interpretation of serial results from a patient.
2. The inclusion of extra-analytical phases in the harmonization process, by creation of quality indicators and quantification of the corresponding state of the art.
3. Also improvement on standardization of the analytical phase because of the use of commutable control materials with values assigned with certified reference methods.

**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?**

Some attitudes may be: substitution of printed by informatics

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

I was the first person in Spain to be appointed as responsible of a quality control department in a hospital laboratory service. I felt so lonely in this area that, since the beginning, I actively looked for other colleagues with same daily task. Some of us joined informally in the international congresses and in the 1990s we could form an expert group under the auspices of the Standards Measurement and Testing Program, led by Per Hyltoft Petersen, recently dead.

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These has been my lead motivations throughout my professional career: to contribute to the growth of the scientific knowledge and to share it and cooperate with the medicine laboratory community.

**What was the main strength for you?**

I am strongly in favour of working in a team, so to be able of debating ideas prior to putting them in practice. In this way you can gain confidence on the new practices implemented in your setting.

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

The role that created more benefits was, in my opinion, to widen the mind and to improve knowledge.

**You were member of an EFLM Task Group apart from other international organizations in the past. What were the greatest challenges during your EFLM engagement? How would you describe EFLM in those days?**

In the 90s, before the creation of EFLM, I was integrated in a European group (Standards Measurement and Testing Program of the European Communities) that had the aim of promoting the use of common analytical quality specifications based on biological variation both in internal and quality control.

I was a member of the EFLM-Biological Variation Database Task group (TG-BVDB) developed under the BV-Working Group since 2015 to 2019. After the EFLM 1<sup>st</sup> Strategic Conference, this Task



reports, reducing (although no eliminating) physical meetings requiring travels by a number of virtual meetings per year, eliminating contaminant reagents when possible, etc

**How did you approach retirement? How do you like to spend your time?**

I am already retired from hospital laboratory but no completely from scientific activities in a voluntary basis, such as reviewing manuscripts to be published and collaborate with friend colleagues when required.

An important part of my dedication is taking care of family and improving friend's relationships. Also important is physical care through gym and walks, as well as mental care by playing piano.

**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?**

My serious recommendation is to continue studying and learning all the life. There are many tools, such as reading, making physical or virtual courses, participating in meetings and attending congresses.

EFLM educational activities fully satisfy these needs.

Maybe the curriculum should also consider the availability of the young professional for doing extra tasks (usually not remunerated) beyond the daily work.

The attached photos are:



Parc Güell, famous park in Barcelona designed by Gaudi



Dosrius aqueduct, built in XIX Century to bring water from a northern area of Barcelona



Playing piano at home



Our Gold Wedding Anniversary celebration



## 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.**

### Montenegrin Association of Clinical Chemistry and Laboratory Medicine

Dr. Tanja Antunovic (Dept of Biochemistry, Center for Clinical-Laboratory Diagnostic, Clinical Center of Montenegro, Podgorica) is the new National Representative for the Montenegrin Association of Clinical Chemistry and Laboratory Medicine replacing Prof. Najdana Gligorovic-Barhanovic who will continue to act as National Society President.

## THE YOUNG SCIENTIST'S CORNER

### EuroMedLab Munich 2021 at a glance by an EFLM Young Scientist

Reported by Aleksei Tikhonov, Institut Gustave Roussy, Villejuif (FR);  
EFLM Communication Committee Member

The XXIV IFCC-EFLM EuroMedLab Munich (DE), brought together the international community of specialists in Lab Medicine from April 10 to 14, 2022. It was very exciting to be part of the IFCC-EFLM Lab Medicine community, which is at the epicenter of medical science, disruptive technologies, and e-health, meeting for four days of networking, education, and innovation. More than 4500 participants worldwide attended the congress; 899 posters were presented, and 162 speakers made exciting presentations on topics covering the entire spectrum of laboratory medicine science. On Sunday evening, Dr. W. Duschl (DE) delivered a plenary lecture, "Where, when, and how? The Quest for Extraterrestrial Life". EuroMedLab combined a large scientific program with educational workshops and symposia, providing cutting-edge science and breakthrough technologies. Alongside this, there was an IVD industry exhibition showcasing the latest innovations in the field of Lab medicine. Many educational industrial workshops were simultaneously organized along with the congress.

On Monday, a series of symposia were dedicated to biomarkers, COVID-19, artificial intelligence, and new analytical methods. Along with the scientific sessions, there was a huge session organized by the young scientists. The Young representatives of the German Society for Clinical Chemistry and Laboratory Medicine (DGKL), the EFLM, and IFCC YS representatives talked about dynamic and innovative projects for the new generation of specialists in Lab medicine. Tara Rolić (HR), a member of the newly formed EFLM Task Force Young Scientists, spoke about the first zoom kick-off meeting in 2021, the formation of the group in 2022, and the process for the EFLM TF-YS presidential elections. She highlighted the challenges associated with increasing networking, promoting laboratory medicine, and improving communication with peers. Dr. Santiago Fares Taie (AR) presented the IFCC Task Force Young

Scientists. He spoke about the involvement of young scientists in IFCC projects, like the mentorship and exchange programs, the organization of regular webinars, and the Lab Surfing project, allowing young laboratory professionals to find and meet colleagues or even ask for an internship.

On the last day of the congress, another Young Scientist session was planned. Santiago Fares Taie, chair IFCC TF-YS, Dr. Masfufa (member TF-YS), Dr. Sancesario (Co-chair TF-YS), and Dr. Rampul (Member TF-YS) spoke about the attractiveness of the profession, on the involvement in the clinical laboratory, the challenges for a successful career, and on the competition and conflict management among Young Laboratory Scientists. A great option for networking was the young professional's dinner in the center of Munich, which more than 60 participants attended.

For the first time, the EFLM-YS group organized a series of short interviews with speakers or participants at EuroMedLab. These interviews were held in a private, comfortable environment at the EFLM booth, and colleagues shared information, thoughts, and plans. We want to thank Silvia Cattaneo for her support and collaboration warmly. It was an honor for me to interview Professor Vincent Sapin, President of Societe Francaise de Biologie Clinique (SFBC). As the interviewer, it was an opportunity to officially thank him for the help given to my recent arrival in France to facilitate my installation and allow me to join the Gustave Roussy Institute, Villejuif (FR), in good conditions to integrate as a post-doctoral student to the team of Professor Aurelien Marabelle.

Prof Sapin spoke about the interactions between the French National Society and EFLM as well as with IFCC. France has a long history with both the European regional federation and the international federation. Professors Jean Emile Courtois (1963-1967) and Gerard Siest (1991-1996) were among the very active Presidents of the IFCC. It strongly urges its members to participate in the different functional units of these two organizations and supports the participation of YS with scholarships.

One of the brightest young SFBC representatives is Marie Lensky, Assistant Hospitalo-Universitaire in toxicology from University Hospital Lille, France. She is an SFBC corresponding member at IFCC TF-YS. She initiated the LiveMyLab Project, which allows laboratory medicine specialists to virtually visit the medical laboratories of colleagues. Marie interviewed Prof. Damien Gruson, Head of the Biochemistry Department, Cliniques Universitaires Saint-Luc, Brussels (BE). Damien Gruson was the first



chair of the IFCC TF-YS (2010-2012), and he is still a consultant. During the interview, he spoke on the growing importance of artificial intelligence in laboratory medicine and what digital transformation means for lab medicine. Later on, he gave an excellent presentation on sustainable development in laboratory medicine and on what steps are being taken or should be taken in this area. Dr. Bernard Gouget, chair of the IFCC-C-MHBLM chaired this Ortho Clinical Diagnostic educational workshop together with Jordi Trafi, Senior Marketing Director EMEA at Ortho Clinical Diagnostics. They discussed how sustainability could be applied to reduce the environmental impact of medical laboratories by ensuring that resources are used efficiently and responsibly and how laboratory medicine can contribute to a sustainable healthcare system through the integration of innovation and emerging technologies while providing high-quality services to patients and caregivers. The issue of sustainable development must be now coming to the fore, as evidenced by the 3rd EFLM Strategic Conference “SMART AND GREEN LABORATORIES: How to implement IVDR, emerging technologies, and sustainable practices in medical laboratories?” organized by EFLM president, Professor. Tomris Osben. This conference will be held in a virtual format at the end of May.

EuroMedLab Munich 2022 was one of the first face-to-face meetings after a long COVID period of virtual meetings. It was a brilliant international event for the future of Lab medicine, with top keynote speakers who dived into many topics that are top of mind for medical biologists and lab professionals around the world. They knew how to challenge an audience and provide tangible takeaways and sustainable action steps. This international congress was the right time to reimagine lab medicine together. It’s never been a more critical time to build relationships between generations. It was really the can’t-miss lab medicine event of the year, where professionals throughout the Worldwide Lab Med ecosystem were connected for the education, innovation, and collaboration they need to reimagine lab medicine, health, and wellness for everyone, everywhere.



Young Scientist Session, Dr. Santiago Fares Taie (Argentina)



Right to left: Dr. Aleksei Tikhonov, EFLM-CC member, interviews Prof. Vincent Sapin (France), SFBC President



Members of the EFLM Communication Committee (left to right): Dr. Tara Rolic (Croatia), Dr. Aleksei Tikhonov (France), and Dr. Daniel Rajdl (Czech Republic)

## NEWS FROM EFLM NATIONAL SOCIETIES

### The clinical laboratory in chronic liver disease

**SEQC<sup>ML</sup>** Within the framework of the Conference of the Scientific Committee of the Spanish Society of Laboratory Medicine (SEQC<sup>ML</sup>), which was held in virtual format

from March 28 - 31, the course ‘The clinical laboratory in chronic liver disease’ was held with the objective of updating attendees about the new diagnostic strategies for the identification of liver tumours and the diagnosis of fatty liver disease associated with metabolic dysfunction.

Chronic liver disease occurs when the liver has been damaged over long periods of time, resulting in scar tissue that limits the liver’s ability to function and repair itself. This condition is the fifth leading cause of death in Europe, and at this time advanced chronic liver disease can only be treated with liver transplantation.



Likewise, through this session, according to its coordinators, the member doctors of the Commission for the Biochemical Assessment of Liver Disease of the SEQC<sup>ML</sup>, Manuel Morales-Ruiz, from the Biochemistry and Molecular Genetics Service-Hospital Clínic de Barcelona; and Armando R. Guerra-Ruiz, from the Clinical Analysis Service of the Marqués de Valdecilla University Hospital in Santander, hope to stimulate collaboration between hepatologists, clinical laboratory professionals, and scientific societies from both fields. They believe that this is the way for professionals working with liver disease to become familiar with both areas of knowledge, and that this collaboration will translate into an improvement in patient care and management.

Many of the blood tests performed on patients during their clinical care show abnormalities in liver tests. In this context, laboratory professionals require an up-to-date understanding of liver pathophysiology to improve interpretation of results in conjunction with hepatologists. As Dr. Manuel Morales-Ruiz notes, these alterations may indicate the onset of subclinical liver diseases, some of which are highly prevalent.

However, there are a number of factors to take into account. To begin with, Drs. Morales-Ruiz and Guerra-Ruiz noted that currently available liver profile assessment tests, while proven useful, also have drawbacks. Among these are their low sensitivity and lack of specificity, as values may be elevated in non-hepatic pathology. According to Dr. Guerra-Ruiz, these tests, in turn, are subject to intra- and inter-individual, pre-analytical, and analytical variations that could modify their diagnostic value and require additional interpretation according to the experience of the laboratory professional.

### **Collaboration between hepatologists and clinical laboratory professionals**

In the last decade there has been a great advance in the development of new biomarkers of liver injury based on omic study and liquid biopsy strategies. According to both specialists, this rapid progress also requires an effort to update and train professionals who can familiarize themselves with the new methodologies. Thus, all these aspects require close collaboration between hepatologists and clinical laboratory professionals, which should result in an improvement in the diagnosis and prognosis of these patients, among whom there is a high proportion of asymptomatic cases, the specialists specified.

Regarding the types of liver tumours, hepatocellular carcinoma (HCC) represents 90% of the total cases. As stated by Dr. Morales-Ruiz, the diagnosis of HCC is "satisfactory" when the serum levels of alpha-fetoprotein (AFP) are significantly increased and the

diagnostic imaging is also clear. The challenge that hepatologists and clinical laboratory specialists face is the early diagnosis and improvement of the diagnosis of AFP-negative HCC, which represents almost half of the cases.

As pointed out, in this type of tumour, diagnostic imaging is not the solution in many cases, despite its high sensitivity of over 90%. Since most of these tumours are small for the sensitivity available, they do not usually present the typical imaging characteristics and their implementation in screening or first-line diagnosis is complex. Beyond HCC, Dr. Morales-Ruiz stressed that cholangiocarcinoma (another type of liver tumour) has a poor prognosis and, as with HCC, early markers are urgently needed.

### **Fatty liver and metabolic dysfunction**

Fatty liver disease, or hepatic steatosis, is characterized by the accumulation of fat in the liver. This condition encompasses a wide spectrum of liver lesions whose common denominator is the accumulation of fat in the liver (steatosis), but which range from simple steatosis without significant necroinflammatory lesions, to a complex, active pattern called steatohepatitis, which includes active lesions of hepatocellular damage, inflammation, and apoptosis.

Various studies have estimated the prevalence in our country at 21-25% of the general population. According to Dr. Guerra-Ruiz, the clinical laboratories of Spanish hospitals have a unique opportunity to contribute to the diagnosis, staging, and control of the most prevalent liver disease today, fatty liver disease associated with metabolic dysfunction.

Early detection of this condition is key, since, as Dr. Guerra-Ruiz asserted, it is a silent disease; that is, it does not show obvious signs or symptoms for a long initial period of time. When fibrosis or cirrhosis have set in, clinical diagnosis is more likely, but by then the patient's prognosis is much more unfavourable, the specialist stressed.

Both experts pointed out that no isolated analytical magnitude is reliable for the diagnosis of this pathology. However, over time, indices or scores have been developed that combine several of these magnitudes with clinical and epidemiological variables of these patients (age, presence of diabetes, etc.) and that are proving to be very useful in detecting steatohepatitis or hepatic fibrosis. According to Drs. Morales-Ruiz and Guerra-Ruiz, these indices, in combination with other non-invasive methods such as ultrasound, elastography, and direct markers of fibrosis, will allow us to detect and evaluate fatty liver disease to act more efficiently in the prevention and treatment of these patients.

### **Course 'Advances in neonatal screening for congenital hypothyroidism: current situation and future perspectives in new detection strategies'**

The collaboration of Laboratory Medicine in the area of biochemistry and genetics, of vital importance in the diagnosis, control, and monitoring of congenital hypothyroidism

- Congenital hypothyroidism is the most common cause of preventable mental retardation in paediatrics
- Brain damage depends directly on the time elapsed from the onset of hypothyroidism to the time of treatment, so in those newborns that are detected and start treatment in the first days of life, morbidity, mortality, and possible disabilities associated with this condition are reduced



- Optimizing strategies by applying different cut-off points, new markers, and decision algorithms, a challenge for neonatal screening laboratories in detecting this pathology.

Madrid, March 9, 2022 – Congenital hypothyroidism (CH) is an endocrine disease characterized by a decrease in the biological activity of thyroid hormones at the tissue level and is the most frequent cause of preventable mental retardation in paediatrics. Brain damage depends directly on the time elapsed from the onset of hypothyroidism to the time of treatment, so those newborns who are detected and start treatment in the first days of life reach a normal or almost normal IQ, reducing morbidity, mortality and possible disabilities associated with this condition.

With the aim of updating advances in early diagnosis and screening of the disease, the **Spanish Society of Laboratory Medicine (SEQC<sup>ML</sup>)** has organized the course ‘**Advances in neonatal screening for congenital hypothyroidism: current situation and future perspectives in the new detection strategies**’, coordinated by the member doctors of the SEQC<sup>ML</sup> Perinatal Diagnosis Commission, Rosa M<sup>a</sup> López Galera, from the Biochemistry and Molecular Genetics Service of the Barcelona Hospital Clínico and the Neonatal Screening Program of Catalonia; and Hugo Rocha, from the Neonatal Screening, Metabolism and Genetics Unit of the Department of Human Genetics of the Instituto Nacional de Saúde Doutor Ricardo Jorge in Portugal.

“In the last decade -explains Dr. López Galera- the incidence of CH has been increasing, due among other factors to the increased risk of suffering from it in premature newborns, those with low birth weight, and identical twins (whose numbers have increased with advances in neonatology), and detection strategies that favour the detection of moderate forms of this pathology”.

This condition has little clinical expression in the neonatal period, and its suspected presence is based on some clinical signs and symptoms such as: respiratory difficulties, bradycardia, cyanosis, persistent jaundice, umbilical hernia, lethargy, drowsiness, lack of interest in feeding, hoarse crying, constipation, or the presence of a large open anterior or posterior fontanelle. As Dr. Rocha indicates, “if it is not diagnosed and treated early (by hormone replacement therapy) the sequelae can be permanent with the appearance of a clinical profile consisting of delayed growth and physical and mental development, which can be manifested by short stature and short limbs, persisting infantile proportions, and delayed bone maturation and dentition. Intellectual retardation can be of variable intensity, from profound cognitive deficits to mild learning disorders.

Therefore, as the moderators of the course underline, the early detection of CH is of paramount interest in Public Health and Preventive Medicine, and that is why it is included in neonatal screening programs. In Spain, the CH Early Detection Program was launched in 1978, its implementation being generalized in all the Autonomous Communities between that year and 1982; with a percentage of coverage at present of practically 100%.

Regarding its prevalence in Spain, according to data published in the 2019 Evaluation Report of the Neonatal Screening Programs of the National Health System of the Ministry of Health, the variable detection rate depending on the Autonomous Community ranges from 1 in every 587 newborns in Navarra to 1 in every 4,610 in the Canary Islands.

### **Advances and challenges in neonatal screening**

Congenital hypothyroidism is classified into three large groups: primary (the cause is in the thyroid gland itself), central (the

disorder is located in the pituitary gland, producing a deficiency of thyroid-stimulating hormone (TSH) or in the hypothalamus, generating in this case a decrease in the production of thyrotropin-releasing hormone (TRH)), and peripheral (due to a generalized resistance of target tissues to thyroid hormones).

Following the WHO criteria, the main objective of neonatal screening programs would be the detection of primary CH, but currently some of the strategies used are aimed not only at detecting primary CH but also central CH and other moderate or transitory secondary forms that can benefit from early diagnosis and treatment.

Neonatal screening for CH detection consists of measuring TSH or TSH + total thyroxine (T4t) in dried capillary blood specimens on paper. Diagnosis is based on complementary tests in venous blood for TSH and free thyroxine (free T4) as well as tests to confirm the presence or absence and location of the thyroid gland using imaging techniques (ultrasound and thyroid scintigraphy with isotope Tc-99m).

On the other hand, in primary CH there is increasing scientific evidence that approximately 20-40% of diagnosed cases have a genetic cause. “In this sense, the study of the molecular bases of hypothyroidism is a field that is being explored and has a long way to go,” says Dr. López Galera.

For Dr. Rocha, advances in the detection of the disease should be aimed at developing new strategies with more optimized adjustments in the cut-off points, improvement of analytical methods, the inclusion of other markers in the detection, and the application of more specific analytical tools such as second-tier tests and “big data” bioinformatic tools such as CLIR (Collaborative Laboratory Integrated Reports), which are already being used to detect other diseases, such as metabolic diseases, in neonatal screening programs, and that could be very useful for CH”, he points out.

In summary, for the moderators of the course, the challenge for neonatal screening laboratories in the detection of congenital hypothyroidism lies in optimizing strategies by applying different cut-off points, new markers, and decision algorithms with the aim of reducing the rate of false positives, as well as avoiding as much as possible the cases of false negatives.

Likewise, the collaboration of Laboratory Medicine in the area of biochemistry and in the near future in genetics for the early detection, diagnosis, control and follow-up of these patients is key. Along the same lines, “the participation of Laboratory Medicine professionals in the preparation of guidelines and/or protocols and in scientific societies can further contribute to the efficiency of screening programs for this congenital pathology”, they conclude.

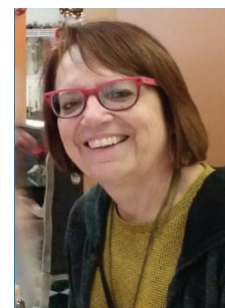
### **Spanish Society of Laboratory Medicine (SEQC<sup>ML</sup>)**

For more information: [www.seqc.es](http://www.seqc.es)



Dear Colleagues,

I invite each of you to follow the links and read the nice articles and see the beautiful photos of the eNews and connect to the great initiatives. A real "plunge" into the IFCC world!



Every attendee at the [EuroMedLab Congress](#) came back fascinated with Munich and the congress, mainly fascinated with being in contact with their colleagues as before.

Every national society celebrated [Global Medlab Week](#). The local "ambassadors" have tried to make it known to everyone. Let's hope that the public became aware of the role of laboratories in their health.

But there is even more for the IFCC to celebrate. IFCC is 70 years old. IFCC eNews will present an interview with IFCC officers regarding its [70th Anniversary](#), starting with interviewing the IFCC President in this issue. We anticipate with great interest these interviews.



And then [IFCC WorldLab in Seoul](#) is ante portas. All of you, IFCC people, are invited to make it a really successful event!

A lot of articles can be found in this issue of the eNews in addition to the valuable and informative **message by our President Prof. Khosrow Adeli**.

Beautiful reports about congresses, meetings, celebrations from all over the world, [reports about Young Scientists meetings](#) and a new article by Dr. Bernard Gouget (at last, after some months of silence, I know we are expecting a lot from him!) about [XXV COLABIOCLI](#) offering us a special flavour about the Congress.

And, then, did you know that there is a metabolomics [book club at the Aga Khan University?](#) A completely new fascinating educational tool. Lots of happy events, lots of spring flowers all around. Let's enjoy every bit of them!

## 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](mailto:eflm@eflm.eu)

**Due to COVID-19 alert throughout the world, some upcoming events could have been cancelled or postponed, please direct check with the organizers if the date is confirmed.**

21 June 2022

**EFLM Webinar: Molecular Immunology: new tricks of the innate immune system**

on-line

[Click here for information](#)



28 June 2022

**EFLM Webinar: From IVD Directive to IVD Regulation: the changing landscape of Test Evaluation and Regulatory Requirements**

on-line

[Click here for information](#)



15 July 2022

**EFLM Webinar: Cardiac Markers**

on-line

[Click here for information](#)



Belgrade (SRB), 12-14 September 2022

**XXII Serbian Congress of Medical Biochemistry and Laboratory Medicine and 16th Belgrade Symposium for Balkan Region**

[Click here for information](#)



<p>13 September 2022</p> <p><b>EFLM Lessons in Immunochemistry - Lesson n. 3: Heart Failure and NT-proBNP</b> on-line</p> <p><a href="#">Click here for information</a></p>	<p>Portorož (SI), 19-20 September 2022</p> <p><b>6th Slovenian Congress of Clinical Chemistry and Laboratory Medicine</b></p> <p><a href="#">Click here for information</a></p>
<p>20-22 September 2022 Jonkoping (SW),</p> <p><b>Annual Meeting for Clinical Chemistry</b></p> <p><a href="#">Click here for information</a></p>	<p>Tallinn (EE), 24-29 September 2022</p> <p><b>XVI Baltic Congress in Laboratory Medicine</b></p> <p><a href="#">Click here for information</a></p>
<p>27 September 2022</p> <p><b>EFLM Webinar: Basic Semen Examination – WHO recommendations and new European ISO standard</b> on-line</p> <p><a href="#">Click here for information</a></p>	<p>Zabreb (HR), 28 September - 1 October 2022</p> <p><b>10th Congress of the Croatian Society of Medical Biochemistry and Laboratory Medicine with International Participation</b></p> <p><a href="#">Click here for information</a></p>
<p>Izmir (TR), 4-9 October 2022</p> <p><b>FEBS Advanced Course: 360-degree Lysosome; from structure to genomics, from function to disease-update</b></p> <p><a href="#">Click here for information</a></p>	<p>Saint Etienne (FR), 5-7 October 2022</p> <p><b>5èmes Journées Francophones de Biologie Médicale (JFBM)</b></p> <p><a href="#">Click here for information</a></p>
<p>Demánovská Dolina (SK), 9-11 October 2022</p> <p><b>XIV Congress of Slovak Society of Clinical Biochemistry</b></p> <p><a href="#">Click here for information</a></p>	<p>11 October 2022</p> <p><b>EFLM Webinar: Challenges in POC testing</b> on-line</p> <p><a href="#">Click here for information</a></p>
<p>Cork (IE), 14-15 October 2022</p> <p><b>44th Annual Conference of the Association of Clinical Biochemists in Ireland (ACBI 2022)</b></p> <p><a href="#">Click here for information</a></p>	<p>Kielce (PL), 19-22 October 2022</p> <p><b>20th PSLD National Congress</b></p> <p><a href="#">Click here for information</a></p>
<p>26 October - 15 November 2022</p> <p><b>3rd EFLM Postgraduate Course: How to write and publish a good scientific &amp; professional article</b> on-line</p> <p><a href="#">Click here for information</a></p>	<p>Izmir (TR), 26-30 October 2022</p> <p><b>International Biochemistry Congress 2022 // 33th National Biochemistry Congress</b></p> <p><a href="#">Click here for information</a></p>
<p>8 November 2022</p> <p><b>EFLM Webinar: Monitoring the performance of a measurement system for its intended clinical use</b> on-line</p> <p><a href="#">Click here for information</a></p>	<p>London (GB), 8-9 November 2022</p> <p><b>UKMedLab 22</b></p> <p><a href="#">Click here for information</a></p>
<p>22 November 2022</p> <p><b>EFLM Webinar: Atherogenic lipoproteins: which, when, and how to quantify</b> on-line</p> <p><a href="#">Click here for information</a></p>	<p>24 November 2022</p> <p><b>EFLM Lessons in Immunochemistry - Lesson n. 4: Androgen excess or deficiency: the role of testosterone and free testosterone</b> on-line</p> <p><a href="#">Click here for information</a></p>
<p>Milan (IT), 30 November 2022</p> <p><b>14th CIRME International Scientific Meeting “Implementation of metrological traceability in laboratory medicine: where we are and what is missing”</b></p> <p><a href="#">Click here for information</a></p>	<p>Paris (FR), 1-2 December 2022</p> <p><b>JIB 2022</b></p> <p><a href="#">Click here for information</a></p>
<p>13 December 2022</p> <p><b>EFLM Webinar: Artificial Intelligence in laboratory medicine</b> on-line</p> <p><a href="#">Click here for information</a></p>	<p>Rome (IT), 21-25 May 2023</p> <p><b>EuroMedLab 2023 - 25th IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine</b></p> <p><a href="#">Click here for information</a></p>