



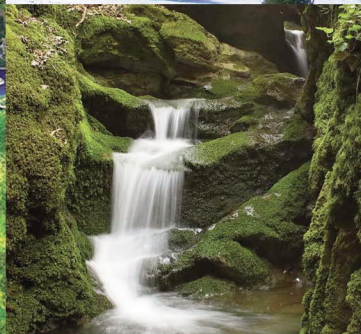
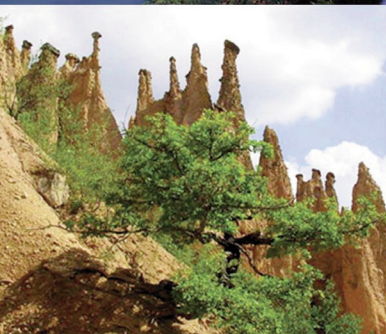
# 9<sup>th</sup> EFLM

SYMPOSIUM FOR BALKAN REGION

Under IFCC and EFLM Auspices

Integrative Algorithms in Patient  
Focused Laboratory Medicine

## PROGRAMME



Best Western Hotel M, Belgrade, Serbia

October 3–5, 2013

[www.dmbj.org.rs](http://www.dmbj.org.rs)

## AUSPICES

### *9<sup>th</sup> EFLM Symposium for Balkan Region*

*is organized under the Auspices of the*

*International Federation of Clinical Chemistry (IFCC)*

*European Federation of Clinical Chemistry  
and Laboratory Medicine (EFLM)*

*Balkan Clinical Laboratory Federation (BCLF)*

*Ministry of Education, Science and Technological Development of Serbia  
Ministry of Health of Serbia*

## MEETING ORGANISERS

Society of Medical Biochemists of Serbia

Center of Medical Biochemistry,

Clinical Center of Serbia

## SYMPOSIUM COORDINATORS

Nada Majkić-Singh

Zorica Šumarac

Anđelo Beletić

Sanja Stanković

## MEETING SECRETARIAT

**CENTER OF MEDICAL BIOCHEMISTRY**

**CLINICAL CENTER OF SERBIA**

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Website: [www.dmbj.org.rs](http://www.dmbj.org.rs)



Dear colleagues and friends,

The Society of Medical Biochemists of Serbia has the pleasure to welcome you to the 9<sup>th</sup> EFLM Symposium for Balkan Region being held under the title **»Integrative Algorithms in Patient Focused Laboratory Medicine«**. The 9<sup>th</sup> EFLM Symposium for Balkan Region is organized under the auspices of the International Federation of Clinical Chemistry (IFCC) and European Federation of Clinical Chemistry and Laboratory Medicine (EFLM). The Society as a member of the IFCC and EFLM greatly appreciates the role it has in the continuing development of our discipline according to the IFCC mission and the Strategic Plan. EFLM appointed Belgrade (Serbia) and the Society of Medical Biochemists of Serbia as the organizer of educational symposia for clinical chemists in the Balkan region and as a result of this decision eight symposia have been organized up to now very successfully.

The first Symposium (Belgrade, June 2005) under the title **»Education, Management and Standards in Laboratory Medicine«** appointed the Present and future activities of EC4 (Rob Jansen), Education and training program of the IFCC in clinical chemistry and laboratory medicine (Willem Huisman), A practical tool for the management of quality in the medical laboratory – ISO 15189 (David Burnett), External quality assessment programs: past, present and future (Mario Plebani), and the process of Establishing reference laboratories in laboratory medicine (Lothar Siekmann). Also experts from the Balkan region (L. Crezante, D. Rizos, N. Majkić-Singh, S. Ignjatović, G. Kolios, A. Tzontcheva) presented their experiences regarding the topics of the Symposium in the Balkan region.

During the 2<sup>nd</sup> EFCC Symposium (Novi Sad, October 2006) held under the title **»New Diagnostic Tools and Quality in Laboratory Medicine«** the New diagnostic tools in clinical chemistry: Applications of SELDI-TOF MS, 2 D-HPLC and microarrays in protein profiling (Marja P. van Dieijen-Visser, Isabella Levreri, Reinhard Hiller), the New biomarkers of diseases: Cardiac natriuretic peptides (Johannes Mair), Complexed PSA (Rainer Neumann), Bone remodeling (Jan Stepan), and Evidence-based approach (Svetlana Ignjatović, Nada Majkić-Singh) were discussed. A special section was devoted to the Application of quality indicators in a medical laboratory (Oswald Sonntag, Jakub Hejsek).

The 3<sup>rd</sup> EFCC Symposium (Belgrade, September 2007) titled **»Theory and Application of Evidence-Based Laboratory Medicine«** provided answers to the following questions: What is evidence based laboratory medicine? (Rita Horvath), How to ask the right questions? (Dunja Rogić), How should you read an article about a diagnostic test? (Svere Sandberg), What is a systematic review and how can it be performed? and How to appraise guidelines? (Rita Horvath), Is there a correlation between the methodological quality and the validity of contents of guidelines? (Joseph Watine), How to implement EBLM in everyday practice? (Svere Sandberg). Also, special subjects addressed the matter of Diagnostic guidelines compared to therapeutic guidelines (Wytze Oosterhuis) and Simple statistics used in diagnostic test evaluations (Svere Sandberg & Diler Aslan) were presented.

The 4<sup>th</sup> EFCC Symposium (Belgrade, June 2008) was organized with the subject »**Impact of the Pre-analytical Phase on the Quality of the Laboratory Results**« where the latest findings regarding the application and significance of the impact of preanalytical factors on the quality of laboratory results were presented with the goal of preventing preanalytical errors that can cause damage to the patients as well as the entire laboratory procedure (Victor Blaton, Nada Majkić-Singh, Sol Green, Pierangelo Bonini, Giuseppe Lippi). Safety measures during the process of collecting biological samples from patients were been discussed, e.g. during venipunctures, for the purpose of protecting the patients (Camilla Mattiuzzi). Besides presentations on the impact of the preanalytical phase in hematology (Giuseppe Banfi), sample stability was also reviewed (Gian Luca Salvagno), as well as the recommendations and ways of educating staff regarding the quality of diagnostic samples (Walter G. Guder). In order to achieve the best possible results, new approaches in laboratory medicine dealing with the application and philosophy behind the LEAN and SIX SIGMA techniques were laid out (Ana Stanković). Experts from Serbia, Romania, Bulgaria and Greece (Z. Šumarac, A. Tzontcheva, M. Cojocararu) presented their experiences regarding the application of the preanalytical phase technology in the Balkan region. Round table discussions on the topics presented served as the basis for reaching conclusions and guidelines in this area of laboratory medicine with the aim of achieving the best possible results to the benefit of patient treatment.

The idea of the 5<sup>th</sup> EFCC Symposium for Balkan Region (Belgrade, October 2009) under the title – **Proteins: from electrophoresis to proteomics** was to make a connection and show the continuation of different electrophoresis techniques for protein profiling to proteomics which is able to show the large-scale image of proteins, particularly their structures and functions. The program of the 5<sup>th</sup> Symposium covers: Agarose gel electrophoresis and capillary electrophoresis (Jean-Francois Giot), Lab-on-chip electrophoresis (Olgica Trenčevska), MADGE-Microplate array diagonal gel electrophoresis (Sanja Stanković), Isoelectrofocusing and PCR amplification-reverse hybridization assay in evaluation of alfa-1-antitrypsin deficiency (Anđelo Beletić), Proteomics techniques in biomarker discovery (Antonia Vlahou), Urinary proteome analysis using capillary electrophoresis coupled with mass spectrophotometry (Harald Mischak), Glucocorticoid receptor in health and disease (Gordana Matić), Molecular diagnosis of phenylketonuria (Sonja Pavlović), Experiences in clinical protein arrays: Biochip cardiac array technology (Grazyna Sypniewska), Cytokine and growth factor array (Hans J. van Pelt), Colorectal cancer array (Martin Crockard) and Multiparameter testing of colorectal cancer (Bernhard Risse).

The 6<sup>th</sup> EFCC Symposium for Balkan Region (Belgrade, October 2010) has been organized under the topic – **Implementing Laboratory Automation, Quality and Efficiency** where prominent foreign (Mario Plebani, Giorgio Da Rin, Jean-Michel Valid, Gerd Hafnner, Gabriele Halwachs-Baumann, Divide Villa) and local experts (Nada Majkić-Singh, Svetlana Ignjatović and Vojislav Stojiljković) introduced to the participants the means for achieving full automation and laboratory consolidation, with the goal of adhering to the philosophy of Lean and Six Sigma laboratory efficiency.

The 7<sup>th</sup> Symposium (Belgrade, June 2011) under the title **Biomarkers: From Standardization to Performance** is natural continuation of the knowledge from the previous Symposia. It was marked with the lecture titles: What is biomarker? From discovery to clinical application (Nada Majkić-Singh), Standardization approaches and definition of performance requirements for heterogeneous biomarker assay (Mauro Panteghini), Defining biomarker performance and clinical validity (Patrick MM Bossuyt), Prospective biomarkers in cardiovascular events (Victor Blaton), How do apolipoproteins B and A perform as biomarker in acute coronary syndrome patients (Grazyna Sypniewska) and The role of copeptin (Dunja Rogić) and Myeloperoxidase (Sanja Stanković) as a cardiac biomarkers. The new biomarkers of molecular aging of proteins (Philippe Gillery), The biomarkers of diabetes complications (Diler Aslan), and Glycans as biomarkers (Miroslava Janković) will be presented. Screening biomarkers for



fetal anomalies (Svetlana Ignjatović), Biomarker for bone turnover (Andrea Griesmacher) and A novel promising tumor markers combination for the prediction of ovarian cancer (Demetrios Rizos) will be discussed. The special lecture on Biomarkers, Biospecimen and European bio-banking infrastructures for translation research has been discussed (Bernard Gouget).

The 8<sup>th</sup> Symposium (Belgrade, September 2012) was held under topic »**Vitamin D deficiency as a new challenge for laboratory medicine**«. After the brief introduction in biochemistry and metabolism of vitamin D (S. Jovičić, Serbia), the distinguished experts in this field presented current knowledge on challenges in diagnosis and monitoring hypovitaminosis D (M. Vogesser, Germany), the role of vitamin D in osteoporosis (V. Popović, Serbia), in the prevention of renal and cardiovascular disease (D. Pavlović, Croatia), in multisystem sarcoidosis (V. Mihailović-Vučinić, Serbia), as well as its biological effects in elderly population (R. Oparisiu-Fournier, France) and contribution of diet to vitamin D status (M. Nikolić, Serbia). Challenges in vitamin D measurement, standardization, analytical methods and performance of immunoassays and mass spectrometry were also elaborated (H.J. Roth, Germany; M. Serteser, Turkey; and N. Babić, USA). Traditionally for these EFLM meeting, experiences from Balkan countries in vitamin D determination closed this symposium. The plenary lecture of the 8<sup>th</sup> EFLM Symposium for Balkan Region was also the opening lecture of the 20<sup>th</sup> BCLF Meeting. We had the pleasure and honor to hear the amazing lecture by the doyen and legend of vitamin D research, prof. Michael Holick. Professor Holick presented vitamin D as a »D-lightful« solution for good health in his unique manner, which most of us, fortunate to hear it, will never forget.

On behalf of the Society of Medical Biochemists of Serbia and the EFLM we would like to welcome and thank all distinguished lecturers for their participation on 9<sup>th</sup> EFLM Symposium for Balkan Region. Their presence gives very high recognition and prestige to this Meeting, which will influence the development of clinical chemistry and laboratory medicine in the Balkan region.

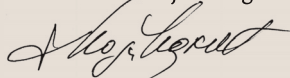
Special thanks are addressed to the participants whose presence is the main stimulus and only reward for those of us who have worked hard in organizing this meeting. We would like to thank all industrial companies and local representatives participating in the exhibitions and sponsoring the organization of the Symposium.

We hope that the EFLM Symposium in Belgrade will continue its successful progress of the previous years, aiming to focus on the new data in the field of laboratory medicine.

To all of you, we wish that you may enjoy these days of science, friendship and hospitality. We hope you will a happy and pleasant stay in Belgrade.

Symposium coordinators

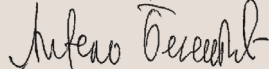
Prof. Dr Nada Majkić-Singh



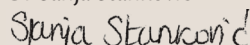
Dr Zorica Šumarac



Andelo Beletić, m.b. master



Dr Sanja Stanković



## THURSDAY, OCTOBER 3, 2013

**10,30 a.m. – 13,30 p.m.**

*Section 1*

Chairs: *N. Majkić-Singh* (Serbia)  
*Z. Šumarac* (Serbia)

- 10,30 – 11,00 a.m. Introduction**  
**EFLM Symposium for Balkan Region**  
*Nada Majkić-Singh, Zorica Šumarac*  
Society of Medical Biochemists of Serbia, Belgrade, Serbia
- 11,00 – 11,30 a.m. Introduction to molecular-genetic diagnostics**  
*Ivana Novaković*  
Institute of Human Genetics, University School of  
Medicine, University of Belgrade, Serbia
- 11,30 – 12,00 a.m. Genetic markers as a base for personalized  
medicine**  
*Sonja Pavlović*  
Laboratory for Molecular Hematology,  
Institute of Molecular Genetics and Genetic  
Engineering, University of Belgrade, Serbia
- 12,00 – 12,30 p.m. Incorporation of molecular diagnostics in  
clinical laboratories**  
*Mario Pazzagli*  
Department of Clinical Physiopathology University of  
Florence, Italy
- 12,30 – 13,00 p.m. Quality assurance in molecular biomedicine  
and life sciences**  
*Michael Neumaier*  
Institute for Clinical Chemistry, Medical Faculty  
Mannheim of the University of Heidelberg, Germany
- 13,00 – 13,30 p.m. Discussion**
- 13,30 – 14,30 p.m. Lunch**

**15,00 p.m. – 17,00 p.m.**

*Section 2*

Chairs: *G. Mitić* (Serbia)  
*S. Margetić* (Croatia)

**15,00 – 15,30 p.m.    Molecular basis of thrombophilia**

*Valentina Đorđević*

Laboratory for Molecular Biology, Institute of  
Molecular Genetics and Genetic Engineering,  
University of Belgrade, Serbia

**15,30 – 16,00 p.m.    Laboratory investigation of thrombophilia**

*Sandra Margetić*

Department of Laboratory Haematology and  
Coagulation, University Department of Chemistry,  
Medical School University Hospital Center, Zagreb,  
Croatia

**16,00 – 16,30 p.m.    Integrative approach to patient with  
thrombophilila**

*Gorana Mitić*

Department of Haematology, Haemostasis, and  
Prevention of Thrombosis, Laboratory Medicine  
Center, Clinical Center of Vojvodina, Novi Sad &  
Medical Faculty, University of Novi Sad, Serbia

**16,30 – 17,00 p.m.    Discussion**

## FRIDAY, OCTOBER 4, 2013

**9,00 a.m. – 11,00 a.m.**

*Section 3*

Chairs: *S. Damjanović* (Serbia)  
*V. Popović-Brkić* (Serbia)

**9,00 – 9,30 a.m.**

### **Integrative protocols in evaluation of multiple endocrine neoplasia**

*Svetozar Damjanović*

Clinic of Endocrinology, Diabetes and Metabolic Diseases, Clinical Center of Serbia, School of Medicine, University of Belgrade, Serbia

**9,30 – 10,00 a.m.**

### **Molecular defects in the pathogenesis of pituitary tumors**

*Vera Popovic-Brkić*

Clinic of Endocrinology, Diabetes and Metabolic Diseases, Clinical Center of Serbia, School of Medicine, University of Belgrade, Serbia

**10,00 – 10,30 a.m.**

### **Molecular genetics and molecular cytogenetics in evaluation of congenital heart defects**

*Goran Čuturilo*

Department of Clinical Genetics, University Children's Hospital, School of Medicine, University of Belgrade, Serbia

**10,30 – 11,00 a.m.**

*Discussion*

*Coffee break*



**11,30 a.m. – 13,30 p.m.**

*Section 4*

Chairs: *G. Siest* (France)  
*S. Stanković* (Serbia)

**11,30 – 12,00 a.m. Pharmacogenomics-introduction**

*Gerard Siest*

Research unit »Cardiovascular Genetics« Faculty of  
Pharmacy, Nancy University of Lorraine, France

**12,00 – 12,30 p.m. Pharmacogenomics of drugs for CV system**

*Sanja Stanković*

Center for Medical Biochemistry,  
Clinical Center of Serbia, Belgrade, Serbia

**12,30 – 13,00 p.m. Pharmacogenetics of immunosuppressives**

*Ron van Schaik*

Department of Clinical Chemistry, Erasmus University  
Medical Center Rotterdam, Netherlands

**13,00 – 13,30 p.m. Discussion**

**13,30 – 14,30 p.m. Lunch**

**15,00 p.m. – 17,00 p.m.**

*Section 5*

Chairs: *K. Fumić* (Croatia)  
*A. Beletić* (Serbia)

**15,00 – 15,30 p.m. Integrative algorithms in diagnostics of lysosomal storage diseases**

*Ksenija Fumić*

Clinical Department of Laboratory Diagnostics,  
Medical Center of Zagreb, Faculty of Pharmacy and  
Biochemistry, University of Zagreb, Croatia

**15,30 – 16,00 p.m. Alpha-1-antitrypsin deficiency – molecular basis, clinical presentation, therapeutic options and integrative approach in diagnostics**

*Anđelo Beletić, Aleksandra Dudvarski-Ilić*

Center for Medical Biochemistry and Clinic of  
Pulmonology, Clinical Center of Serbia, School of  
Medicine, University of Belgrade, Serbia

**16,00 – 16,30 p.m. Molecular characteristics, phenotypic diversity and genotype-estimated therapeutic responsiveness of Serbian patients with phenylketonuria**

*Maja Stojiljkovic-Petrović*

Laboratory for Molecular Hematology,  
Institute of Molecular Genetics and Genetic  
Engineering, University of Belgrade, Serbia

**16,30 – 17,00 p.m. Round table discussion on presented topics**

# GENERAL INFORMATION

## Date and Venue

The Scientific programme and exhibition of the 9<sup>th</sup> EFLM Symposium for Balkan Region in Belgrade will be held in Hotel »M«, Bulevar oslobođenja 56, Belgrade, from 3–5 October, 2013.

## Accommodation

A number of rooms have been reserved for the participants accommodation in Hotel »M«, Bulevar oslobođenja 56, Belgrade (single room – 95 EUR; double – 110 EUR). Rates are daily per room, including breakfast and taxes (in Euro's). Reservation will be made on a first-come, first-serve basis before August 15, 2013.

## Registration desk

The registration desk located at the Hotel »M«, Belgrade will be open for the duration of the Symposium from Thursday, October 3, 2013 at 9:00 a.m. to Friday, October 4, 2013 at 6:00 p.m.

**Full registration fee** 120.00 Euro

Registration fees may be paid in Euros or dinars, by bank transfers or in cash at site (see Registration Form).

## The registration fee includes:

- ☞ Admission to all scientific sessions
- ☞ Admission to exhibition
- ☞ Congress material (programme, abstract book, congress bag, badge, etc.)
- ☞ Coffee breaks
- ☞ Two lunch
- ☞ Certificate of attendance

## **Badges**

Badges will be distributed at the registration desk upon arrival. Please attach your badges for admission to all scientific and social activities.

## **Certificate of participation**

The certificate of participation will be issued to those who are properly registered. The certificate of participation will be available at the registration desk and must be picked up just before departure.

## **Congress language**

The official language of the congress will be English.

## **Visual Equipment**

The Meeting hall will be equipped with data video projectors for the speakers needs.

## **Exhibition**

An exhibition of laboratory equipment and reagents will take place during Meeting.

## **Internet**

The Organizer kindly invites you to visit the Meeting Web pages at [www.dmbj.org.rs](http://www.dmbj.org.rs)

## **Weather**

In October Belgrade enjoys a mild climate. The average daily temperature is about 20 °C.



## 9th EFLM Symposium for Balkan Region Integrative Algorithms in Patient Focused Laboratory Medicine

*October 3–5, 2013*

**Hotel »M« BEOGRAD  
Belgrade, Serbia**

### REGISTRATION FORM

*I will participate on the 9th EFLM Symposium on October 3–5, 2013:*

Surname: \_\_\_\_\_ Name: \_\_\_\_\_

Title: Prof.  Dr.  Mr.  Ms.  Speciality: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ Zip Code: \_\_\_\_\_ Country: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

<b>REGISTRATION FEE</b>	120 EUR	<input type="checkbox"/>
	Total payment: _____ EUR	

**PAYMENT CONDITIONS (Svaki učesnik plaća bankarske troškove na ukupnu neto sumu):  
Bank transfer fee is not included**

*PAYMENTS SHOULD BE EFFECTED BY BANK REMITTANCE TO:*

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**Intermediary Bank  
(posrednička banka)**

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(korisnik sredstava)**

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#### **PAYMENT FOR DOMESTIC RESIDENTS**

*Kotizacija za domaće učesnike plaća se u dinarskoj protivvrednosti na dan uplate.*

**Tekući račun: 255-0006390101000-02, Privredna banka Beograd a.d., Beograd**

Date \_\_\_\_\_

Signature \_\_\_\_\_

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## ACCOMMODATION

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*Please contact the Hotel:*

**Hotel »M«**

**Bulevar oslobođenja 56**

**11000 Belgrade, Serbia**

**Phone/Fax: + 381 11 30 90 609**

**+ 381 11 30 90 644**

**e-mail: [office@hotel-m.com](mailto:office@hotel-m.com)**

**Contact person: Raco Vuković**

**Jelena Peković**

### **Contact address:**

**Secretariat of EFLM Symposium**

**Dr Zorica Šumarac**

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**e-mail: [dmbj@eunet.rs](mailto:dmbj@eunet.rs)**



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## ORGANISER

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Website: [www.dmbj.org.rs](http://www.dmbj.org.rs)