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## CoMBoS2

Content

Welcome speech 4

Congress Orginizers 5

MolBioS Award Winner 9

Plenary speakers 10

Session plenary speakers

- MOLECULAR BIOMEDICINE 11
- MOLECULAR BIOTECHNOLOGY 13
- MOLECULAR MECHANISMS OF CELL FUNCTIONS 16

Abstracts

Session PLENARY LECTURES 20

Session MOLECULAR BIOMEDICINE 25
PLENARY LECTURES 26
INVITED LECTURES 31
POSTERS 38

Session MOLECULAR BIOTECHNOLOGY 100 PLENARY LECTURES 101 INVITED LECTURES 107 POSTERS 112

Session MOLECULAR MECHANISMS OF CELL FUNCTIONS 126
PLENARY LECTURES 127
INVITED LECTURES 134
POSTERS 139

MolBioS Student Session 157

Project Corner 182

Congress Friends 190

Sponsors 191



# WELCOME SPEECH



Professor Dušanka **Savić-Pavićević** President of the Serbian Society for Molecular Biology



Dr. Melita **Vidaković** President of the Steering Committee of the Serbian Society for Molecular Biology

#### Dear colleagues and friends,

On behalf of the Serbian Society for Molecular Biology (MolBioS), we warmly welcome you to Belgrade for the Second Congress of Molecular Biologists of Serbia (CoMBoS2).

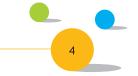
The congress is gathering almost 250 participants from 13 countries (Sweden, United Kingdom, Italy, Switzerland, USA, Australia, Hungary, Czech Republic, Romania, Montenegro, Croatia, Bosnia and Herzegovina, and Serbia).

The program covers various fields of Molecular Biology, including Molecular Biomedicine, Molecular Biotechnology and Molecular Cell Biology, and consists of plenary and invited lectures, the MolBioS award winner lecture, poster sessions and the project corner. Special attention is paid to students and young scientists through the MolBioS Student Session, flash presentations and workshops on state-of-the-art molecular biology methods.

We wish you to be inspired by exciting and outstanding lectures given by renowned scientists and experts, exchange ideas, find opportunities for new collaborations, and have good fun.

#### WELCOME TO





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Abstracts

# Session MOLECULAR MECHANISMS OF CELL FUNCTIONS



#### ACTIVATION OF COAGULATION FACTORS AND PROTHROMBOTIC PROPERTIES OF ENDOTHELIUM IN HEMATOLOGICAL MALIGNANCIES

Olivera Mitrović-Ajtić,<sup>1</sup> Dragoslava Đikić,<sup>2</sup> Teodora Dragojević,<sup>1</sup> Vladimir Otašević,<sup>2</sup> Emilija Živković,<sup>1</sup> Vojin Vuković,<sup>2</sup> Milica Vukotić,<sup>1</sup> Tijana Subotički,<sup>1</sup> Miloš Diklić,<sup>1</sup> Nada Suvajdžić-Vuković,<sup>2,3</sup> Mirjana Mitrović,<sup>2,3</sup> Biljana Mihaljević,<sup>2,3</sup> Darko Antić,<sup>2,3</sup> <u>Vladan P. Čokić</u><sup>1</sup>

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**Introduction:** Patients with hematological malignancies have an increased risk of thrombotic complications, ranging from 3-5% in patients with lymphoma and acute myeloid leukemia (AML). The presented study observed the onset of thrombus formation to predict risk factors for thrombosis in lymphoid and myeloid malignancies.

**Methods:** Coagulation factors, inflammatory signaling pathways and adhesion molecules have been observed in patients with Hodgkin lymphoma (HL), diffuse large B-cell lymphoma (DLBCL), follicular lymphoma (FL) and AML. Their mononuclear cells (MNC) trans-endothelial migration through human microvascular endothelial cells (HMEC-1) monolayer is observed by Boyden chamber.

**Results:** Thrombin was in positive correlation with tumor necrosis factor alpha (TNF- $\alpha$ ) in HL, while with P-selectin (p<0.001), tumor growth factor-beta (TGF- $\beta$ ) and factor VIII (p<0.05) in DLBCL and AML. Transendothelial migration of MNC was increased by TNF- $\alpha$  (p<0.001) in DLBCL regardless of previous thrombosis. Regarding coagulation, factor VIII was increased in HL and AML (p<0.05), while tissue factor in non-Hodgkin lymphomas (DLBCL and FL, p<0.05). Tissue factor was in positive correlation with adhesion molecule P-selectin and factor VIII (p<0.05). P-selectin was increased in non-Hodgkin lymphomas (p<0.0001), while TGF- $\beta$  only in FL (p<0.001). Fibrinolytic activity was decreased in plasma of patients with HL, DLBCL, and FL (p<0.05), but largely in AML (p<0.01) as measured by tissue-type plasminogen activator. Inflammatory NF- $\kappa$ B signaling has been activated in HL and DLBCL, while p38 signaling only in HL.

**Conclusion**: Coagulation factors and inflammation are increased in hematological malignancies along with the interaction of the endothelium and circulating cells that predispose to thrombus formation.

Key words: hematological malignancies; thrombus; coagulation factors; adhesion molecules.

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Session MOLECULAR MECHANISMS OF CELL FUNCTIONS

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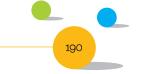




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