



**IMMUNOLOGY AT THE CONFLUENCE
OF MULTIDISCIPLINARY
APPROACHES
ABSTRACT BOOK**

**Institute for Biological Research "Siniša Stanković" National
Institute of Republic of Serbia
University of Belgrade**

Immunological Society of Serbia

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MULTIDISCIPLINARY APPROACHES**

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INTRODUCTORY WORDS

Dear colleagues,

It has been our great pleasure to organize this congress, as the first attempt to accelerate interaction between immunologists and other biomedical scientists, as well as between basic and clinical immunologists. We are all witnesses of increased specialization in science. At the same time, there is a growing need for integration of specific fields for the benefit of scientific research. We hope that this congress is a step forward to better integration of biomedical studies.

PROGRAM

Friday December 6th

9:00-9:15 **Nada Pejnović** OPENING WORDS

OPENING LECTURE (Nada Pejnović)

9:15-10:00 **Janko Nikolić-Žugić** IMMUNE AGING OF SECONDARY LYMPHOID ORGANS: PERSPECTIVES FOR INTERVENTION

Session: IMMUNOTHERAPY

(Đorđe Miljković, Alisa Gruden Movsesijan)

10:00-10:15 **Anica Remenar** ACCELERATE YOUR PACE IN IMMUNE SYSTEM RESEARCH – DURACLONE PANELS, Beckman Coulter/ELTA90MS sponsored lecture

10:15-10:45 **Olivera Finn** TARGETS OF SPONTANEOUS IMMUNOSURVEILLANCE AS VACCINE ANTIGENS FOR CANCER PREVENTION AND THERAPY

10:45-11:10 **Tanja Nikolić** TOLEROGENIC VACCINATION WITH DENDRITIC CELLS IN TYPE 1 DIABETES - FROM AN IDEA TO A TRIAL

11:10-11:30 **Ayca Sayi Yazgan** THE PD-1/PD-L1 IMMUNE INHIBITORY CHECKPOINT IN *H. pylori*- RELATED GASTRIC MALIGNANCIES

11:30-11:45 **Martin Jakopec** AN OVERVIEW OF EVOS IMAGING APPLICATIONS AND SOLUTIONS Thermo Fisher Scientific/Vivogen sponsored lecture

11:45-12:15 **Discussion**

12:15-13:30 *Lunch break/Poster viewing*

Session: NEXT GENERATION SEQUENCING

(Ivana Novaković, Sergej Tomić)

- 13:30-13:45 **Stefano Romorini** BIO-RAD S3E CELL SORTER: CELL SORTING MADE EASY Labena sponsored lecture
- 13:45-14:10 **Borut Peterlin** GENOMIC APPROACH TO MULTIPLE SCLEROSIS
- 14:10-14:30 **Ivana Novaković** FROM TRADITIONAL TO MODERN APPROACHES IN ANALYSIS OF DISEASE CAUSING GENES AND GENE VARIANTS: ROLE OF NEXT GENERATION SEQUENCING
- 14:30-14:50 **Goran Čuturilo** NEXT GENERATION SEQUENCING AND IMMUNOGENETICS: EXPERIENCE FROM CLINICAL GENETIC SERVICE OF TERCIARY PEDIATRIC REFERRAL CENTRE
- 14:50-15:05 **Marko Andabaka** HLA GENOTYPISATION BY NEXT GENERATION SEQUENCING IN PATIENTS WITH NEUROMYELITIS OPTICA SPECTRUM OF DISORDERS
- 15:05-15:30 **Discussion**
- 15:30-16:30 *Coffee break/Poster session*

Session: VASCULITIS

(Sanvila Rašković, Snežana Arandelović)

- 16:00-16:25 **Sanvila Rašković** NEWS ABOUT ETIOPATHOGENESIS AND THERAPY OF SYSTEMIC LUPUS ERYTHEMATOSUS
- 16:25-16:50 **Žikica Jovičić** CAN PRESENCE OF VARIOUS ANTIBODIES PREDICT CLINICAL MANIFESTATIONS?
- 16:50-17:15 **Snežana Arandelović** CLINICAL AND IMMUNOSEROLOGICAL PHENOTYPES OF CRYOGLOBULINEMIA
- 17:15-17:30 **Maja Stojanović** TAKAJASU ARTERITIS- DIAGNOSTIC APPROACH

- 17:30-17:45 **Nevena Savić** CRIPTOCOCCUS MENINGOENCEPHALITIS IN DIFFERENTIAL DIAGNOSIS OF NEUROLUPUS-A CASE REPORT
- 17:45-18:00 **Rada Mišković** STRONGYLOIDIASIS AND VASCULITIS COMPLICATED WITH TUBERCULOSIS - A CASE REPORT
- 18:00-18:30 **Discussion**

Saturday December 7th

PLENARY LECTURES (Tamara Saksida)

- 9:15-9:45 **Bojan Polić** DECREASE IN BLOOD GLUCOSE LEVELS DUE TO VIRAL INFECTION PROMOTES INNATE-IMMUNE ANTI-VIRAL RESPONSE
- 9:45-10:15 **Maja Jagodić** APPLIED OMICS: INSIGHTS INTO THE PATHOGENESIS OF MULTIPLE SCLEROSIS

Session: METABOLIC INFLAMMATION

(Ana Đorđević, Nemanja Jovičić)

- 10:15-10:45 **Rosita Gabbianelli** NUTRIGENOMICS AND INFLAMMATION
- 10:45-11:05 **Nataša Veličković** IS METAFIAMMATION A USUAL SUSPECT FOR FRUCTOSE-INDUCED METABOLIC DISTURBANCES?
- 11:05-11:25 **Aleksandra Stanković** THE IMMUNOMODULATORY EFFECTS OF POLYPHENOL RICH JUICE CONSUMPTION ON GENE EXPRESSION IN SUBJECTS AT CVD RISK
- 11:25-11:45 **Ivana Nikolić** T CELLS AND STRESS – NOVEL REGULATORS OF OBESITY DEVELOPMENT
- 11:45-12:15 **Discussion**
- 12:15-13:30 *Lunch break/Poster viewing*

Session: IMMUNODEFICIENCIES

(Mario Abinun, Srđan Pašić)

- 13:30-13:55 **Mario Abinun** AUTOIMMUNITY AND AUTOINFLAMMATION IN PRIMARY IMMUNODEFICIENCY
- 13:55-14:20 **Desa Lilić** PRIMARY IMMUNE DEFICIENCY AND CANDIDIASIS FROM BENCH TO BEDSIDE
- 14:20-14:40 **Srđan Pašić** PRIMARY IMMUNODEFICIENCY DISEASES WITH DEFICIENT ANTIBODY PRODUCTION IN CHILDREN
- 14:40-15:00 **Sladana Andrejević** THE MANY FACES OF HEREDITARY ANGIOEDEMA
- 15:00-15:15 **Radovan Miljanović** COMMON VARIABLE IMMUNODEFFICIENCY: 18-YEAR FOLLOW-UP OF PATIENTS IN CLINICAL CENTER OF SERBIA
- 15:15-15:30 **Discussion**
- 15:30-16:30 *Coffee break/Poster session*

Session: NEUROIMMUNOLOGY

(Irena Lavrnja, Mirjana Nacka-Aleksić)

- 16:30-17:00 **Diego Centonze** INFLAMMATORY NEURODEGENERATION IN MULTIPLE SCLEROSIS
- 17:00-17:30 **Jelena Druловиć** NEUROFILAMENT LIGHT CHAIN LEVELS AND OLIGOCLONAL IgG BANDS - POTENTIAL BIOMARKERS IN MULTIPLE SCLEROSIS
- 17:30-18:00 **Gurumoorthy Krishnamoorthy** THE GUT-BRAIN AXIS IN CNS AUTOIMMUNITY
- 18:00-18:30 **Discussion**

Sunday December 8th

PLENARY LECTURES (Nada Pejnović)

- 9:15-9:45 **Vladimir Badovinac** T CELL IMMUNITY DURING SEPSIS-INDUCED IMMUNOPARALYSIS STATE – A FEW SHORT STORIES
- 9:45-10:15 **Dragana Janković** IMPACT OF INFECTION ON HEMATOPOIESIS AND LYMPHOCYTE HOMEOSTASIS

Session: PROTEOMICS

(Marija Gavrović-Jankulović, Marijana Stojanović)

- 10:15-10:45 **Boris Turk** CYSTEINE CATHEPSINS: FROM SPECIFICITY AND SUBSTRATES TO MINIMALLY INVASIVE DIAGNOSTIC IMAGING IN CANCER
- 10:45-11:15 **Uta Jappe** NEW ALLERGENS: THEIR IMPACT ON DIAGNOSIS AND TREATMENT AND HOW TO IDENTIFY THEM
- 11:15-11:30 **Andrijana Nešić** REGULATION OF mRNA EXPRESSION OF TIGHT JUNCTION PROTEINS AND PRO-ALLERGENIC CYTOKINES BY THE MAJOR KIWIFRUIT ALLERGEN ACTINIDIN IN VIVO
- 11:30-11:45 **Marija Mojić** NKG2D AS A MARKER OF ACTIVE TUMOR-ANTIGEN SPECIFIC CD8⁺ T CELLS DURING ANTITUMOR IMMUNE RESPONSE IN MOUSE MELANOMA MODEL
- 11:45-12:15 **Discussion**
- 12:15-13:30 *Lunch break/Poster viewing*

Session: AUTOIMMUNITY

(Miloš Marković, Slavko Mojsilović)

- 13:30-14:00 **Nebojša Lalić** T CELLS IN TYPE 1 DIABETES: ROLE AND POSSIBILITIES OF MODULATION
- 14:00-14:30 **Andrey Tchobanov** NEW APPROACHES FOR SELECTIVE IMMUNOTHERAPY OF AUTOIMMUNE DISEASES BY ENGINEERED CHIMERIC MOLECULES
- 14:30-14:45 **Alisa Gruden-Movsesijan** TRICHINELLA SPIRALIS PRODUCTS, POWERFUL MODULATORS OF AUTOIMMUNITY
- 14:45-15:00 **Nemanja Jovičić** EXOGENOUS IL-33 PREVENTS MLD-STZ INDUCTION OF DIABETES AND ATTENUATE INSULITIS IN PREDIABETIC NOD MICE
- 15:00-15:15 **Ivan Koprivica** ATRA- AND TGF- β -LOADED MICROPARTICLES AMELIORATE TYPE 1 DIABETES IN MICE
- 15:15-15:30 **Discussion**

15:30-16:30 *Coffee break/Poster session*

Session: EPIGENETICS

(Melita Vidaković, Ivana Stojanović)

- 16:30-17:00 **Marianne Rots** THE PAST, PRESENCE AND FUTURE OF TARGETING EPIGENETIC MARKS: FROM CHEMICALS AND DNA VIA PROTEINS TO RNA AND CLINICAL GENE THERAPY
- 17:00-17:30 **Tomasz Jurkowski** ERASING EPIGENETIC MEMORY: PRONOUNCED SEQUENCE PREFERENCE OF MAMMALIAN TET ENZYMES GUIDES ACTIVE DNA DEMETHYLATION
- 17:30-17:45 **Jovan Pešović** VARIANT CCG REPEATS WITHIN *DMPK* EXPANSIONS AND SURROUNDING CpG SITES ARE HETEROGENEOUSLY METHYLATED IN BLOOD CELLS OF MYOTONIC DYSTROPHY TYPE 1 PATIENTS
- 17:45-18:00 **Katarina Zeljić** THE IMPORTANCE OF STUDYING miRNAS IN ORAL CANCER
- 18:00-18:15 **Nada Nikolić** GENE METHYLATION IN HEAD AND NECK TUMORS
- 18:15-18:30 **Miljana Tanić** APPLICATION OF EPIGENOMICS FOR THE STUDY OF TUMOR HETEROGENEITY IN NON-SMALL-CELL LUNG CANCER
- 18:30-18:50 **Discussion**
- 18:50-19:00 **Tamara Saksida** CLOSING WORDS

Sunday, December 8th Session: CELLS

Poster presentation

17 β -ESTRADIOL AND GENISTEIN AFFECT MACROPHAGE
INFLAMMATORY CYTOKINE PRODUCTION DURING AGING IN
SEX-SPECIFIC MANNER

Ivana Ćuruvija¹, Stanislava Stanojević¹, Veljko Blagojević¹, Raisa Petrović¹,
Ivana Prijic¹ and Vesna Vujić²

¹*Immunology Research Centre “Branislav Janković”, Institute of Virology,
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Belgrade, Serbia*

Aging differently affects the expression of estrogen receptors alpha and beta (ER α and ER β) and Toll-like receptors (TLR4) on peritoneal cavity cells of male and female rats. We explored the involvement of ER α and ER β in the *in vitro* treatment of LPS-stimulated peritoneal macrophages with 17 β -estradiol (which stimulates both receptors) or genistein (which is predominantly an ER β agonist) on inflammatory cytokine secretion from young (3 months old) and middle-aged (16 months old) female and male AO rats. Aging diminished the proportion of TLR4+ cells and secretion of IL-1 β and IL-6 in macrophages from female rats while the effect on male rat macrophages was opposite. 17 β -estradiol increased IL-1 β secretion by middle-aged females' macrophages *via* ER α , and suppressed it in cells from young females *via* ER β . Genistein-induced decrease of IL-1 β in macrophages from all experimental groups was probably mediated by ER β . 17 β -estradiol augmented IL-6 secretion by cells from all experimental groups *via* ER α while genistein diminished it in all females' and in middle-aged male rats' macrophages by activating ER β . However, genistein increased IL-6 secretion from macrophages of young male rats *via* ER α . Although 17 β -estradiol and genistein stimulated secretion of macrophage inflammatory cytokines *via* ER α and suppressed it probably *via* ER β , their modulatory actions were determined by aging-induced changes in macrophage ERs expression and possible ER α / ER β interactions (Supported by Ministry of Education, Science and Technological development, Republic of Serbia, Grant No 175050).