

V CONGRESS OF THE SERBIAN GENETIC SOCIETY

BOOK OF ABSTRACTS

KLADOVO, Serbia,
28 September-02 October 201

Publisher

Serbian Genetic Society, Belgrade

www.dgsgenetika.org.rs

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Number of copies printed

350

Printing

Akademski izdanja, Belgrade

ISBN 978-86-87109-10-0

Design: Elda Stanković

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WELCOME TO V CONGRESS OF THE SERBIAN GENETIC SOCIETY!

Dear colleagues,

Welcome to the 5th Congress of the Serbian Genetic Society. The Serbian Genetic Society (SGS) has been founded in 1968 and the first Congress organized by the SGS was held 20 years ago in Vrnjacka Banja. Since then, the Congress of Serbian Genetic Society is held every five years. Over the past 20 years, the Congress has grown from a national to an international meeting. On this occasion we will have participants from 26 countries, so we believe that this conference will successfully provide a platform for regional and international researchers and professionals in genetics to have a productive dialogue and share their views.

The aim of the Congress is to reflect on progress made in genetics, to celebrate the best of contemporary research and to anticipate future developments in the discipline.

The Congress will focus on wide range of topics organized in 8 sessions: Human Genome Variation, Medical Genetics, Genetic Toxicology: From Cell to Ecosystem, Adaptation to Changing Environments, Genetic Diversity, Phylogeny and Conservation, Methodology in Genetic Research, Pre Breeding and Breeding, New Techniques in Breeding. The programme will include 21 plenary lectures, 44 oral and 255 poster presentation and also, a special feature of the Congress will be a roundtable on novel food.

More than 300 participants are expected to attend this year's Congress. Many of the presentations will accordingly be in lecture-like settings, but we hope that there will also be ample opportunities for informal interaction outside the scheduled sessions. We hope that participants will have opportunity not only to attend presentations of cutting-edge research, but also through those interactions to launch new projects and to spend time with co-authors.

The successful organization of the Congress has required the talents, dedication and time of many members of the Scientific and Organizing committees and strong support from sponsors.

I hope that you will find the Congress both pleasant and valuable, and also enjoy the cultural and natural beauty of Kladovo and National park Djerdap.

Yours sincerely,



Branka Vasiljevic
Chair of the Scientific Committee

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III-05 Poster

Impact of *in vivo* and *in vitro* exposure to selected cytostatics on DNA damage in haemocytes of freshwater mussels *Unio pictorum* and *Unio tumidus*

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The impact of 5-Fluorouracil (5-FU), Cisplatin (CP) and Etoposide (Eto) on DNA damage level was studied *in vivo* and *in vitro* on haemocytes of freshwater mussels *Unio pictorum* and *U. tumidus* using alkaline comet assay. For *in vitro* treatment, two different approaches were applied: i) isolated haemocytes were treated for 30 min in physiological solution, ii) primary culture of haemocytes was treated for 22h. For *in vivo* experiment, mussels were exposed in static system for 72h. CdCl₂ was used as positive control. The level of DNA damage was analyzed by Comet Assay IV software. CdCl₂ induced significant increase in DNA damage *in vitro* and *in vivo*. Increase of damage was also detected with Eto *in vivo* and in primary cultures of haemocytes (*in vitro*). For 5-FU, the significant increase of DNA damage was detected only *in vivo*, while CP did not induced increase of DNA damage *in vivo* or *in vitro*. Lack of genotoxic effects of cytostatics in isolated haemocytes can be attributed to short period of exposure (30 min), while the lack of the effects of 5-FU and CP in primary cultures can be assigned to the mechanisms of action of these drugs.

Keywords: cytostatics, genotoxicity, comet assay, freshwater mussels