



# **BOOK** of **ABSTRACTS**

## **4<sup>th</sup> INTERNATIONAL CONFERENCE ON PLANT BIOLOGY (23<sup>rd</sup> SPPS Meeting)**



**6-8 OCTOBER 2022  
BELGRADE**

**Serbian Plant Physiology Society**

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

**Faculty of Biology, University of Belgrade**

**BOOK OF ABSTRACTS**  
**4<sup>th</sup> International Conference**  
**on Plant Biology**  
**(23<sup>rd</sup> SPPS Meeting)**



Belgrade, 2022

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# PROGRAMME

**THURSDAY 6<sup>TH</sup> OCTOBER**

- 12:00-18:00      **Registration**
- 12:00-14:00      *NEPETOME project workshop (Science Fund of the Republic of Serbia, #Grant No 7749433): "Methodologies for the iridoid diversity investigation within the genus Nepeta" (Botanical Garden "Jevremovac")*
- 18:00-22:00      *Welcoming cocktail and Celebration of SPPS jubilee (Botanical Garden "Jevremovac")*

**FRIDAY 7<sup>TH</sup> OCTOBER**

- 09:00-09:15      **Opening Ceremony**

**SECTION 2 · PLANT STRESS PHYSIOLOGY**

**Chairs:** Jelena Dragišić Maksimović & Tamara Rakić

- 09:15-10:00      **Keynote: Mondher Bouzayen**  
*Uncoupling fruit softening from fruit ripening: a paradigm shift of thinking*
- 10:00-10:30      **Plenary lecture: Miroslav Lisjak**  
*Growth conditions may affect the nutritional quality of wheatgrass (*Triticum aestivum* L.)*
- 10:30-11:00      **Plenary lecture: Hermann Heilmeier**  
*The functional role of non-essential elements in the root zone: how interactions between essential and non-essential elements shape the chemical rhizosphere environment*
- 11:00-11:30      **Coffee break**
- 11:30-11:50      **Invited talk: Zsófia Bánfalvi**  
*Regulation and function of GIGANTEA genes in *Solanum tuberosum* cultivar 'Desirée'*
- 11:50-12:10      **Invited talk: Ingeborg Lang**  
*Drought or heavy metals – investigating the abiotic stress tolerance in bryophytes*
- 12:10-12:30      **Invited talk: Biljana Kukavica**  
*Flooding and antioxidative response in plants*
- 12:30-12:50      **Invited talk: Sonja Milić Komić**  
*Distinctive regulation of different phenolics biosynthesis by high light and UV-B in three basil varieties*
- 12:50-13:05      **Selected talk: Mariana Stanišić**  
*What happens with phloretin in plants? – Phloretin real-time effects and post-treatment metabolism in treated *Arabidopsis* seedlings*
- 13:05-13:20      **Selected talk: Danijela Arsenov**  
*Fullerenol (C<sub>60</sub>(OH)<sub>24</sub>) as a potent stress alleviator against drought and trace-element toxicity in *Alliaria petiolata* (M.Bieb.) Cavara et Grande*
- 13:20-14:00      **Poster session**
- 14:00-15:30      **Lunch break**

## SECTION 1 · PLANT GROWTH, DEVELOPMENT, METABOLISM AND NUTRITION

**Chairs:** Ivana Maksimović & Slavica Ninković

- 15:30-16:00      **Plenary lecture:** Panagiotis Kalaitzis  
*A prolyl-4-hydroxylase and Arabinogalactan proteins are involved in relocation of tomato abscission zone*
- 16:00-16:30      **Plenary lecture:** Marjorie Guichard  
*State-dependent protein interaction networks of a central regulator of plant growth and metabolism*
- 16:30-16:50      **Invited talk:** Václav Motyka  
*Hormone and role of desiccation in somatic embryogenesis of conifers*
- 16:50-17:20      **Coffee break**
- 17:20-17:40      **Invited talk:** Julien Pirrello  
*Transition to ripening in tomato fruit needs genetic reprogramming initiated in gel tissue*
- 17:40-18:00      **Invited talk:** Guido Grossmann  
*Robust yet adaptive - morphogenesis and growth regulation in roots*
- 18:00-18:20      **Invited talk:** Jan Fíla  
*The beta-subunit of nascent polypeptide associated complex plays a role in flowers and siliques development of Arabidopsis thaliana*
- 18:20-18:35      **Selected talk:** Kiril Mishev  
*The interaction network of the plant NudC family protein NMig1*
- 18:35-19:15      **Poster session**

SATURDAY 8<sup>TH</sup> OCTOBER

- 09:00-10:00      **SPPS Assembly**

## SECTION 4 · ECOLOGY, GENETICS AND EVOLUTION OF PLANTS

**Chairs:** Branislav Šiler & Sanja Manitašević Jovanović

- 10:00-10:30      **Plenary lecture:** Velemir Ninković  
*Plant signaling and behavior mediated via volatiles*
- 10:30-11:00      **Plenary lecture:** Janez Kermavnar  
*Impacts of forest management on plant functional traits and ecological conditions in the Dinaric fir-beech forests (Slovenia)*
- 11:00-11:30      **Coffee break**
- 11:30-11:50      **Invited talk:** Ksenija Jakovljević  
*Ecophysiology of metal-hyperaccumulation in plants: what do we know so far?*
- 11:50-12:10      **Invited talk:** Jelena Milojević  
*Elucidation of the mechanism underlying somatic embryo induction in spinach*

- 12:10-12:30 **Invited talk: Miroslava Zhiponova**  
*Catmint (Nepeta nuda L.) Phylogenetics and Metabolic Responses in Variable Growth Conditions*
- 12:30-12:50 **Invited talk: Neda Aničić**  
*Progress in disentangling the diversity of iridoids within the genus Nepeta: surprising biosynthetic and evolutionary insights*
- 12:50-13:05 **Selected talk: Denitsa Teofanova**  
*Distribution, host range, and genetic variability of the holoparasitic genus Cuscuta in Bulgaria*
- 13:05-13:20 **Selected talk: Katarina Hočevar**  
*Variation in Hsp70 and Hsp101 levels in response to experimental warming in Iris pumila L.: an open-topped chamber experiment*
- 13:20-14:00 **Poster session**
- 14:00-15:30 **Lunch break**

**SECTION 3 · APPLICATION IN AGRICULTURE, PHARMACY AND FOOD INDUSTRY**

**Chairs: Ana Ćirić & Ana Marjanović Jeromela**

- 15:30-16:00 **Plenary lecture: Angelos K. Kanellis**  
*Aroma formation in Vitis vinifera grape berries*
- 16:00-16:30 **Plenary lecture: Ekaterina-Michaela Tomou**  
*Metabolomic strategy for detecting herbal products' differentiations and potential adulteration*
- 16:30-16:50 **Invited talk: Mila Grahovac**  
*Essential oils and hydrolates in control of plant pathogens*
- 16:50-17:20 **Coffee break**
- 17:20-17:40 **Invited talk: Carla Vogt**  
*Determination of elements, isotopes and organics in plants with high local resolution by mass spectrometric methods*
- 17:40-18:00 **Invited talk: Milan Mirosavljević**  
*Integrating physiological traits in local small grains breeding program*
- 18:00-18:20 **Invited talk: Nada Ćujić Nikolić**  
*Chokeberry, from natural polyphenol resource to promising functional foods and pharmaceuticals*
- 18:20-18:35 **Selected talk: Ana Pantelić**  
*Late embryogenesis abundant (LEA) proteins in Ramonda serbica Panc identification, classification and structural characterization*
- 18:35-18:50 **Selected talk: Dejan Stojković**  
*Supercritical fluid extraction of Chicory reveals its antimicrobial, antibiofilm and wound healing potentials*
- 18:50-19:15 **Poster session**
- 19:15-19:30 **Closing Ceremony**
- 20:00-00:00 **Gala Dinner**



## Chloroplast *trnL* - *trnF* region variation in the genus *Centaureum* Hill as a molecular indicator of natural interspecific hybridization

PP4-10

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Species of the genus *Centaureum* are highly variable and clinal morphological variations caused by environmental conditions are very noticeable. Nevertheless, it is also well documented that species and subspecies of this genus hybridize readily in nature and it is considered that interspecific hybridization may be one of the leading causes of variability within the genus. Earlier studies indicate that the species *C. erythraea* Rafn and *C. tenuiflorum* (Hoffmanns. et Link) Fritsch in areas with a Mediterranean climate hybridize in nature. The taxonomic status of the hybridogenous taxon, which probably originated through the hybridization of the mentioned species, here called "*C. xtenuiflorum*", has not been resolved. Since it has been proven to be a useful genetic marker in giving evidence of hybridization among several species of the genus *Centaureum*, the chloroplast *trnL* - *trnF* region was used for the study of hybridization between these particular species. The results of variation in the *trnL* - *trnF* region indicated that the taxon "*C. xtenuiflorum*" shared a chloroplast haplogroup with the species *C. tenuiflorum*, which implies that *C. tenuiflorum* might be the donor of chloroplast DNA. In subsequent research, it is necessary to combine the data obtained from the analysis of the *trnL* - *trnF* region with the data that would be obtained from the analysis of other regions of genomic and/or chloroplast DNA to resolve the status of this potentially hybridogenous taxon.

**Keywords:** *Centaureum* Hill, interspecific hybridization, *trnL* - *trnF* cpDNA

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