

# BOOK OF ABSTRACTS

## 3rd International Conference on Plant Biology (22nd SPSS Meeting)



9-12 JUNE 2018  
BELGRADE

**Serbian Plant Physiology Society**

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

**Faculty of Biology, University of Belgrade**

**3<sup>rd</sup> International Conference  
on Plant Biology  
(22<sup>nd</sup> SPPS Meeting)**



9-12 June 2018, Belgrade

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CIP - Каталогизacija у публикацији - Народна библиотека Србије, Београд  
581(048)(0.034.2)

INTERNATIONAL Conference on Plant Biology (3 ; 2018 ; Belgrade)

[Book of Abstracts] [Електронски извор] / 3rd International Conference on Plant Biology [and] 22nd SPPS Meeting, 9-12 June 2018, Belgrade ; [organized by] Serbian Plant Physiology Society [and] Institute for Biological Research "Siniša Stanković", University of Belgrade [and] Faculty of Biology, University of Belgrade ; [editor Branka Uzelac]. - Belgrade : Serbian Plant Physiology Society : University, Institute for Biological Research "Siniša Stanković" : University, Faculty of Biology, 2018 (Beograd : Друштво за физиологију биљака Србије). - 1 USB fleš memorija ; 1 x 3 x 8 cm

Тираж 230. - Регистар.

ISBN 978-86-912591-4-3 (SPPS)

1. Друштво за физиологију биљака Србије. Састанак (22 ; 2018 ; Београд)

2. Институт за биолошка истраживања "Синиша Станковић" (Београд)

а) Ботаника - Апстрактни

COBISS.SR-ID 264421900

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<b><u>Publishers</u></b>	Serbian Plant Physiology Society Institute for Biological Research "Siniša Stanković", University of Belgrade Faculty of Biology, University of Belgrade
<b><u>Editor</u></b>	Branka Uzelac
<b><u>Graphic design</u></b>	Dejan Matekalo
<b><u>Prepress</u></b>	Marija G. Gray
<b><u>Electronic edition</u></b>	230 pcs

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## Arabidopsis EML histone readers are essential for seed development

PP1-23

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Histone post-translational modifications (PTMs) and their recognition by histone readers, play a major role in regulating gene expression. Despite extensive studies, there is a lack of systematic knowledge of histone readers in plants. *EMSY-like (EML)* gene family was identified in *Arabidopsis thaliana* (*Arabidopsis*) based on homology with maize *RIF1*. RIF1 and EML proteins share a unique protein domain organization, characterized by the ENT and AGENET domains, found only in proteins with chromatin-associated functions. We demonstrated that EML1 and EML3 bind histone H3 lysine 36 (H3K36), a PTM usually associated with active gene expression and that they are localized in different compartments during seed development. To functionally characterize *Arabidopsis* EML proteins, we generated *eml1-2*, and *eml3-4* homozygous single mutant, as well as *eml1-2 eml3-4* double mutant stocks. Consistent with their localization pattern, mutants in *EML1* or *EML3* showed delayed embryo development, while in the *eml1-2 eml3-4* we observed a more significant delay compared with its WT. In addition, combined loss of function of *EML1* and *EML3* displayed early seed abortion and also caused ovule abortion, suggestive of a synergistic effect. Therefore, our preliminary results suggest that *EML* genes, specific histone mark readers in seeds, have an essential role in seed development.

**Keywords:** *Arabidopsis thaliana*, post-translational modifications, histone reader, seed development

Grant Nos. MCB-0418891, MCB-1158262 and IOS-1354636, supported by National Science Foundation and Grant No. OPBC2011-003, supported by the Ohio Agricultural Research and Development Center.

## The influence of light quality on growth parameters of pepper (*Capsicum annuum* L.) plantlets

PP1-24

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The quality and quantity of light are important factors in the production of quality vegetable plantlets. Effective portion of the spectrum for photosynthesis is in the red and blue range; however, in the production of vegetable plantlets additional LED lighting that emits light just within the range of these wavelengths is often applied. The aim of this study was to determine the effect of red, blue and combinations of red and blue LED lights as well as common fluorescent light, on morphological traits, SPAD index and the content of chlorophyll, carotenoids and phenols in the leaves of pepper (*Capsicum annuum* L.), in two terms of analysis during seedlings growth. The