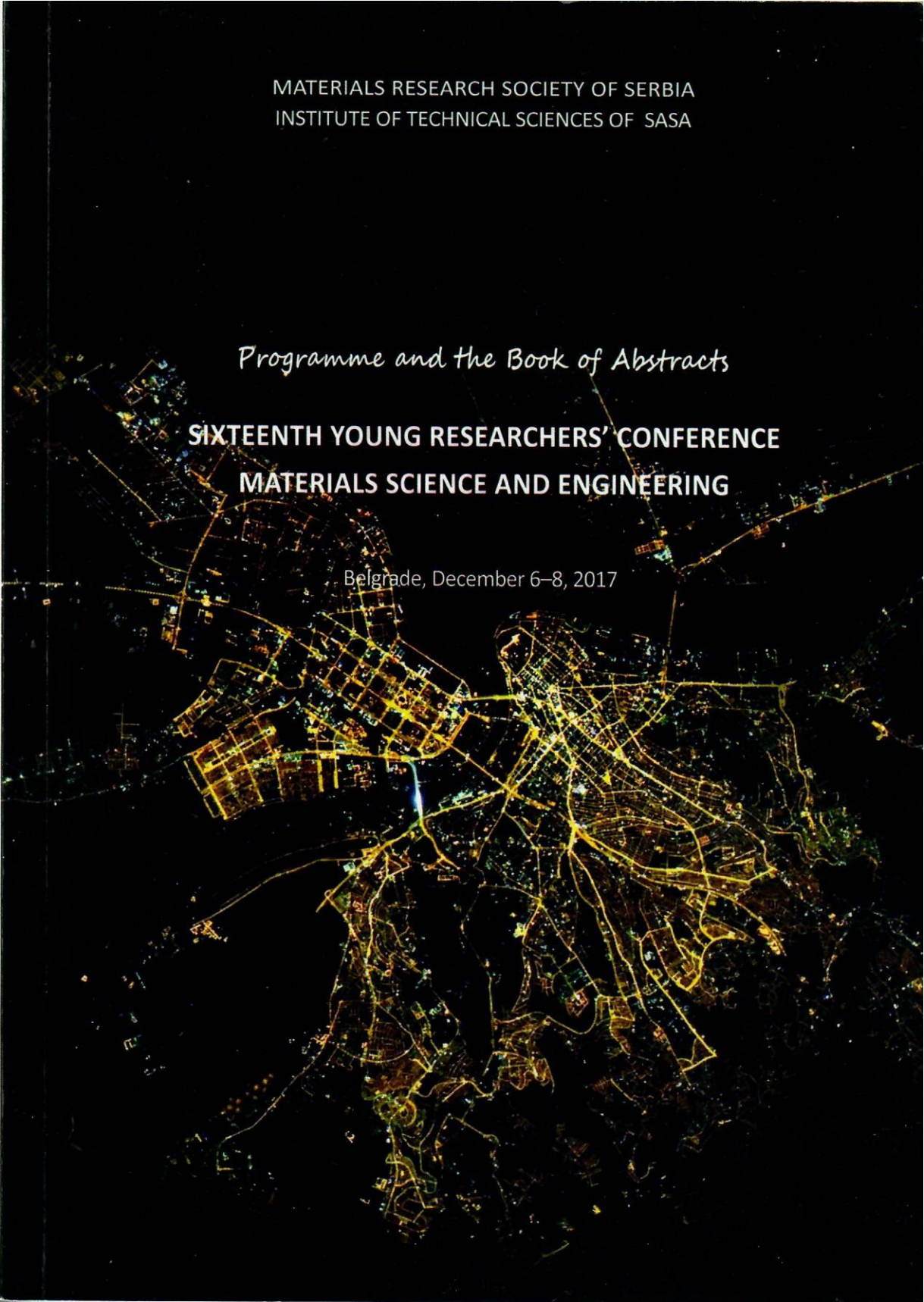


MATERIALS RESEARCH SOCIETY OF SERBIA  
INSTITUTE OF TECHNICAL SCIENCES OF SASA

*Programme and the Book of Abstracts*

**SIXTEENTH YOUNG RESEARCHERS' CONFERENCE  
MATERIALS SCIENCE AND ENGINEERING**

Belgrade, December 6–8, 2017



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**Program and the Book of Abstracts**

**Materials Research Society of Serbia  
&  
Institute of Technical Sciences of SASA**

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## **Aim of the Conference**

Main aim of the conference is to enable young researchers (post-graduate, master or doctoral student, or a PhD holder younger than 35) working in the field of materials science and engineering, to meet their colleagues and exchange experiences about their research.

## **Topics**

Biomaterials  
Environmental science  
Materials for high-technology applications  
Nanostructured materials  
New synthesis and processing methods  
Theoretical modelling of materials

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### **Results of the Conference**

Beside printed «Program and the Book of Abstracts», which is disseminated to all conference participants, selected and awarded peer-reviewed papers will be published in journals “Tehnika – Novi Materijali” and “Processing and Application of Ceramics”. The best presented papers, suggested by Session Chairpersons and selected by Awards Committee, will be proclaimed at the Closing Ceremony. Part of the award is free-of-charge conference fee at YUCOMAT 2018.

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4-6

### Winemaking by-products as a source of phenolic compounds

Anita T. Smailagić,<sup>1</sup> Milica M. Pantelić,<sup>2</sup> Dragana Č. Dabić Zagorac,<sup>2</sup> Maja M. Natić<sup>1</sup>

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Recovering bioactive compounds from agricultural waste is attracting an increasing attention in the past years. The wine industry produces a large portion of waste that represents an ecological and economical issue as grape pomace (seeds and skins), stems and lees are residues left behind after pressing and fermentation in the production process. These winemaking by-products are rich in various phytochemicals, especially polyphenols, and therefore could be used as an inexpensive and sustainable source in biotechnological applications (nutraceutical, medical, pharmaceutical, and cosmetic industry).

The objective of this work was to characterize red grape pomace and to establish its phenolic profile. The content of total polyphenols (TPC) and anthocyanins (TAC), along with the radical scavenging activity were investigated, and the influence of three different extraction solvents (acidified MeOH/H<sub>2</sub>O, acidified EtOH/H<sub>2</sub>O and 0.1M HCl) was assessed. Quantification of phenolics in grape pomace extracts was done using the available standards by UHPLC coupled with a diode array detector (DAD) and connected to a triple-quadruple mass spectrometer. The concentration of total phenolics was determined using Folin-Ciocalteu method, scavenging activity of pomace extracts was evaluated using DPPH<sup>•</sup> reagent, while the content of anthocyanins was determined using pH-differential method. The results obtained for TPC, RSA and TAC varied due to different solvents used for the extraction (2.1-6.5 mg GAE/100 g DW, 12.2-34.5 μmol TE/100 g DW, and 406.9-695.3 mg mal 3-glu/100 g, respectively). Among polyphenols the most abundant was catechin (34.4 mg/100 g DW). Also, high concentrations of gallic acid, ellagic acid, and syringic acid were found (7.8 mg/100 g DW, 2.3 mg/100 g DW, and 2.1 mg/100 g DW, respectively). Our investigations indicated that analysed extracts were rich in polyphenols and therefore could be considered in food supplements production.

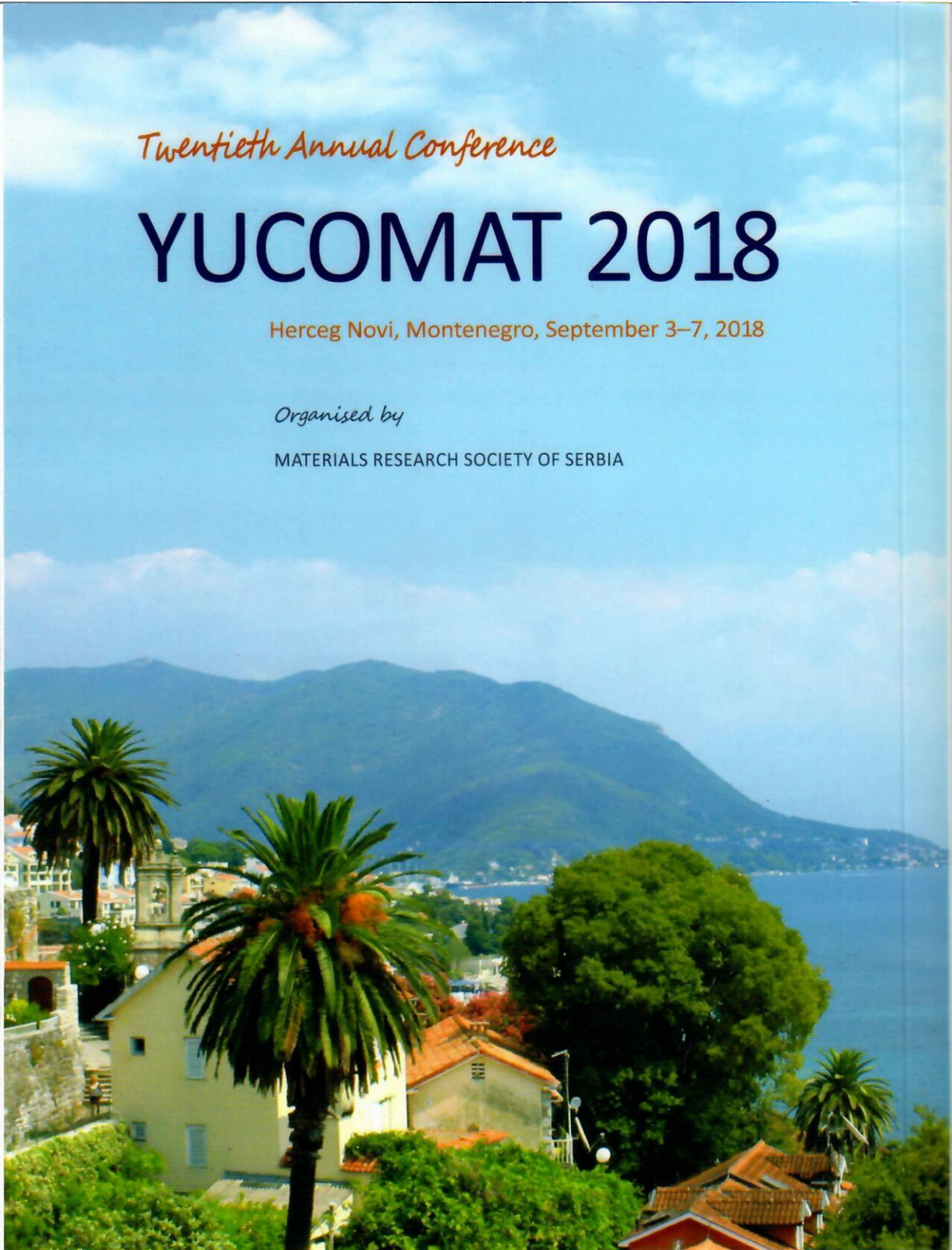
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