

The Serbian Society for Ceramic Materials  
Institute for Multidisciplinary Research (IMSI), University of Belgrade  
Institute of Physics, University of Belgrade  
Center of Excellence for the Synthesis, Processing and Characterization of  
Materials for use in Extreme Conditions "CEXTREME LAB" - Institute of  
Nuclear Sciences "Vinča", University of Belgrade  
Faculty of Mechanical Engineering, University of Belgrade  
Center for Green Technologies, Institute for Multidisciplinary Research,  
University of Belgrade  
Faculty of Technology and Metallurgy, University of Belgrade  
Faculty of Technology, University of Novi Sad

A microscopic image of ceramic particles, showing a transition from white to red. The particles are spherical and densely packed. The top half is white, and the bottom half is red, with a horizontal line separating the two colors.

# PROGRAMME and the BOOK of ABSTRACTS

## 5CSCS-2019

5<sup>th</sup> Conference of  
the Serbian Society for Ceramic Materials  
June 11-13.2019. Belgrade Serbia

Edited by:  
**Branko Matović**  
**Zorica Branković**  
**Aleksandra Dapčević**  
**Vladimir V. Srdić**

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Dr. Branko Matović

Dr. Zorica Branković

Prof. Aleksandra Dapčević

Prof. Vladimir V. Srdić

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**SPECIAL THANKS TO**



Република Србија  
МИНИСТАРСТВО ПРОСВЕТЕ,  
НАУКЕ И ТЕХНОЛОШКОГ РАЗВОЈА



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the estimation of nanoparticles' suspension stability in aqueous media. The success of subsequent coating with carbohydrates and the differences between coated nCeO<sub>2</sub> have been proven with FT-IR spectra. Turbidity measurement showed the best stability of levan- and glucose-coated nCeO<sub>2</sub> suspensions. It can be concluded that coating with carbohydrates improved the stability of the nCeO<sub>2</sub> suspension by decreasing the size of aggregated particles. The obtained results open new horizons for further ecotoxicity investigation and nCeO<sub>2</sub> application.

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## RELEVANT PROPERTIES OF GREEN SELF-COMPACTING CONCRETE

Milan Vasić<sup>1</sup>, Sanja Martinović<sup>2</sup>, Milica Vlahović<sup>2</sup>,  
Tatjana Volkov-Husović<sup>3</sup>, Aleksandar Savić<sup>4</sup>

<sup>1</sup>*Faculty of Civil Engineering, Belgrade, Serbia*

<sup>2</sup>*Institute of Chemistry, Technology and Metallurgy, Belgrade, Serbia*

<sup>3</sup>*Faculty of Technology and Metallurgy, Belgrade, Serbia*

<sup>4</sup>*Faculty of Civil Engineering, Belgrade, Serbia*

The production of durable concrete with a high content of supplementing cementitious materials and recycled aggregate presents a step towards sustainability in the concrete industry. The paper presents the findings of the study, conducted on four series of concrete with self-compacting properties, which embodied recycled concrete aggregate, as a substitution for natural sand and gravel. Besides, this concrete possessed high content of fly ash, therefore qualifying as ecological (green) one. Particle packing method was used in the design of this concrete. Fresh properties included: density, slump flow, V-funnel, L-box and temperature, while compressive and tensile strengths were evaluated in the hardened state. Although certain difficulties in the application were recognized concerning the fast loss of workability in the fresh state, all of the tested mixtures exceeded the requirements of hardened structural concrete.

**Keywords:** self-compacting concrete, sustainability, physical and mechanical properties