



**Serbian Ceramic Society Conference**  
**ADVANCED CERAMICS AND APPLICATION V**  
**New Frontiers in Multifunctional Material Science and Processing**

**Serbian Ceramic Society**  
**Institute of Technical Sciences of SASA**  
**Institute for Testing of Materials**  
**Institute of Chemistry Technology and Metallurgy**  
**Institute for Technology of Nuclear and Other Raw Mineral Materials**  
**School of Electrical Engineering and Computer Science of Applied Studies**

**PROGRAM AND THE BOOK OF ABSTRACTS**

**Serbian Academy of Sciences and Arts, Knez Mihailova 35**  
**Serbia, Belgrade, 21st-23rd September 2016.**

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## **P1**

### **Characteristics of Mortar from the Archeological site Caričin Grad**

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The paper presents research of mortar from the archeological site Caričin Grad. Caričin Grad is an early Byzantine site located near Leskovac, Serbia. It is of extreme importance for the study of early Medieval architecture. The town covers the area of around 7 ha. In town planning terms, it consists of Acropolis, Middle, and Lower town, each with its system of ramparts and the structures leaning on them. There is a large number of sacred buildings, Baths, public and private buildings, well developed water supply and sewerage system provide evidence of the town's importance. Mortar was sampled from the buildings surrounding the circular square of the Middle town, from the structures north of Acropolis, gate between the Middle and Lower town, east gate of the Lower city as well as the aqueduct structure. Mortars were analyzed with the goal of obtaining information about morphological, mineralogical, chemical and basic physical properties of mortar. For analysis of these properties, optical microscopy was used and scanning electronic microscope. Depending on the location sampled mortars, there are differences of individual properties of mortar. The optical examination of macroscopic appearance of mortar samples indicated that those are limestone mortars. The aggregate grains detected are river and crushed limestone aggregate and fine pieces of bricks.

## **P2**

### **Complications of utilisation of ceramic components in orthopedic surgery**

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There is variety of biomaterials used in orthopedic surgery nowadays, with its own advantages and imperfections. Ceramics has its own place in manufacturing of endoprosthesis components due to its properties: low friction coefficient, scratch resistance, excellent biocompatibility. Principle disadvantage of ceramics is brittleness and inability for plastic deformation. These features are mitigated to a certain extent but remains leading cause of ceramics components failure.