



**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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## P12

### **Application of hydroxyapatite granules in mastoid obliteration**

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The primary goal of surgical intervention for chronic middle ear disease is to development of a safe, dry, and low-maintenance ear. Persistent moisture, infection, and drainage is problematic in about one-third of patients, but also requiring revision surgery as canal-wall-down mastoidectomy. Despite best practice and continuous care, an open mastoid cavity is a handicap for the patients. The patients usually requires regular cleaning and life-long protection of the ear against water. During life, it could be a source of ear discharge due to irritation mucosal lining.

The principle of mastoid obliteration was introduce as early as 1911. Over the years different biological tissues have been used to obliterate mastoid cavities including fat tissue, cartilage, musculo-periosteal flap and autogenous bone. However, these tissue all suffer from atrophy or resorption with time. While all the intial reports were on the use of biological tissues, there has been an increasing interest in synthetic materials. Hydrxyapatite is a well-known biocompatible ceramic with a long history of success in middle ear surgery. Experimental studies have demonstrated that hydroxyapate granulae do not undergo morphological changes after long term inplanatation in the temporal bulae.

The purpose of our work is to present an importance of hydroxyapatite granule for mastoid obliteration of open radical mastoid cavities and to point out a new concept as application of nanocrystalline calcium phosphate in otosurgery. In our retrospective review, we found that the majority of individuals undergoing mastoid surgery with obliteration achieved a dry ear and there was a reduction of clinic visits during fellow-up period between 1 to 5 years.

## P13

### **Characteristics of mortar from the archeological site Romuliana – Gamzigrad**

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Felix Romuliana is a palace erected during the rain and after the design of the Emperor Gaius Valerius Galerius Maximianus. It belongs to the category of monuments of Roman court architecture which is associated with the time of Tetrarchy. During the archeological excavations, two fortification systems were discovered, they younger outer system with twenty polygonal massive towers, and an older inner system with sixteen towers of quadragonal and octagonal