

**NINTH ANNUAL CONFERENCE OF THE YUGOSLAV MATERIALS  
RESEARCH SOCIETY**

# **YUCOMAT 2007**

Hotel "Plaža", Herceg Novi, Montenegro, September 10-14, 2007  
<http://www.yu-mrs.org.yu>

## **Programme and The Book of Abstracts**

Organised by:  
**Yugoslav Materials Research Society,  
Faculty of Metallurgy and Technology, Podgorica  
and  
Institute of Technical Sciences of the  
Serbian Academy of Sciences and Arts, Belgrade**

**Title:** THE NINTH YUGOSLAV MATERIALS RESEARCH SOCIETY CONFERENCE  
“YUCOMAT 2007”  
Programme  
and  
The Book of Abstracts

**Publisher:** Institute of Technical Sciences of SASA  
Knez Mihailova 35/IV; P.O. Box 377, 11000 Belgrade, Serbia  
Phone: +381 11 2185-437; Fax: + 381 11 2185-263  
<http://www.itn.sanu.ac.yu>

**Editor:** Prof. Dr. Dragan P. Uskoković

**Technical editor:** Aleksandra Stojičić

**Cover page:** Aleksandra Stojičić

**Copyright** © 2007 Institute of Technical Sciences of the Serbian Academy of Sciences & Arts

**Acknowledgment:** The editor of the book of abstracts is grateful to the Ministry of Science of the Republic of Serbia for its financial support of this book and The Ninth Yugoslav Materials Research Society Conference “YUCOMAT 2007” held in Herceg Novi.



**Printed in:** Printing office “Čigoja”  
Studentski trg 15, 11000 Belgrade  
Phones: + 381 11 2186-725; + 381 11 625-954  
Circulation: 300 copies. The end of printing: July 2007.

ISBN 978-86-80321-11-0



CIP – Каталогизација у публикацији  
Народна библиотека Србије, Београд

66.017/.018(048)

YUGOSLAV Materials Research Society  
(Beograd). Conference (9 ; 2007 ; Herceg  
Novi)

Programme and the Book of Abstracts /  
Ninth Annual Conference of the Yugoslav  
Materials Research Society YUCOMAT 2007,  
Herceg Novi, September 10-14, 2007 ;  
organized by Yugoslav Materials Research  
Society, Faculty of Metallurgy and Tehnology,  
Podgorica and Institute of Technical Sciences  
of the Serbian Academy of Sciences and Arts,  
Belgrade ; [editor Dragan R. Uskoković]. -  
Belgrade : Institute of Technical Sciences  
of SASA, 2007 (Belgrade : Čigoja). - LI,  
202 str. : table ; 30 cm

Tiraž 300. - Registar.

ISBN 978-86-80321-11-0

1. Yugoslav Materials Research Society  
(Beograd) 2. Faculty of Metallurgy and  
Tehnology (Podgorica) 3. Institute of  
Technical Sciences of SASA (Beograd)  
а) Наука о материјалима - Апстракти б)  
Технички материјали - Апстракти  
COBISS.SR-ID 141931788

*P.S.E.21*

**EVALUATION OF GLASSIONOMER CEMENT APPLICATION FOR PERMANENT  
BINDING OF PROSTHETIC DENTURES**

M. Andjelković<sup>1</sup>, Z. Ajduković<sup>2</sup>, M. Kostić<sup>1</sup>, N. Krunić<sup>2</sup>, B. Kaličanin<sup>3</sup>, N. Ignjatović<sup>4</sup>  
<sup>1</sup>Clinic of Stomatology, Department of Prosthodontics, Niš, Serbia, <sup>2</sup>University of Niš, Faculty of Medicine, Clinic of Stomatology, Department of Prosthodontics, Niš, Serbia, <sup>3</sup>University of Niš, Faculty of Medicine, Department of Pharmacy, Niš, Serbia, <sup>4</sup>Institute of Technical Sciences of SASA, Belgrade, Serbia

Fixed dentures are created in order to rehabilitate the function of orofacial system, to correct disordered interdental relation, as well as the relation between jaws and to do esthetic correction. Binding of fixed dentures to the teeth carriers is done with a layer of binding biomaterials from the group of dental cements. Cement as the choice of dental biomaterials has to be the best cement for the most frequent, routine management for these type of works and most frequently used materials – metal, acrylate, ceramics. Cement must be safe to use with patients. Ideally, it must have longtime advantages such as to be for various uses, to find the right balance between results and simplicity of application, which are the most important for routine management. There are many types of cement. In this study, Zn-phosphate and glassionomer cement were used. In modern dental technology, production of cement is well developed and the most concerns are about non-toxicity, biocompatibility, bioinertion, biofunction. In some cases acidic balance disorder of saliva medium can bring to release of low doses of heavy metal ions after the reaction of cement and heavy metal ions from dental compounds. In this study, the best results were achieved with glassionomer cement, because the lowest percent of released heavy metal ions in saliva medium was noticed after cementing of fixed dentures by glassionomer cement. Because of its characteristics, glassionomer cement can be the choice material for permanent cementing of fixed prosthetic dentures.

*P.S.E.22*

**BOVINE SERUM ALBUMIN (BSA) ION INTERACTION FOLLOWED BY ITC**

S. Ostojić, M. Kićanović  
Institute of General and Physiscal Chemistry, Belgrade, Serbia

Interaction between Bovine Serum Albumin (BSA) and several biological metal ions ( $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Na}^+$ ) have been studied by Isothermal Titration Calorimetry (ITC). Thermodynamical parameters (H - enthalpy of binding, K - binding constant and N - number of binding sites) of protein/ion interaction were obtained. Possibility of BSA usage, as potential ion delivery agent, in protein drug delivery system was discussed.