

*Programme & The Book of Abstracts*

*Nineteenth Annual Conference*

# YUCOMAT 2017

Herceg Novi, Montenegro, September 4-8, 2017

*Organised by*

MATERIALS RESEARCH SOCIETY OF SERBIA

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**NINETEENTH ANNUAL CONFERENCE**

# **YUCOMAT 2017**

Hunguest Hotel Sun Resort Herceg Novi, Montenegro,  
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<http://www.mrs-serbia.org.rs>

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Organised by:  
**Materials Research Society of Serbia**

Endorsed by:  
**Materials Research Society,  
European Materials Research Society  
and  
Federation of European Material Societies**

**Title:** THE NINETEENTH ANNUAL CONFERENCE  
**YUCOMAT 2017**  
Programme and The Book of Abstracts

**Publisher:** Materials Research Society of Serbia  
Knez Mihailova 35/IV, P.O.Box 433, 11000 Belgrade, Serbia  
Phone: +381 11 2185-437  
<http://www.mrs-serbia.org.rs>

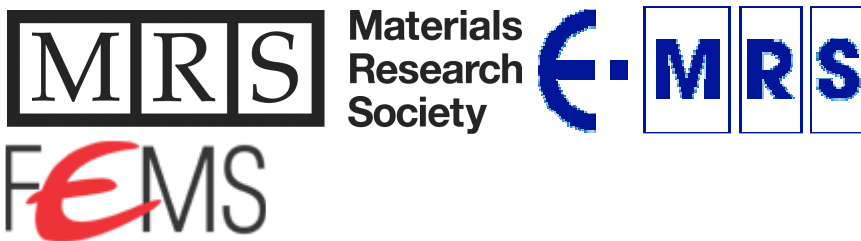
**Editors:** Prof. Dr. Dragan P. Uskoković and Prof. Dr. Velimir Radmilović

**Technical editor:** Aleksandra Stojičić

**Cover page:** Aleksandra Stojičić and Milica Ševkušić  
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**Acknowledgments:** This conference is celebrating 20 years of MRS-Serbia.



**Printed in:** Biro Konto  
Sutorina bb, Igalo – Herceg Novi, Montenegro  
Phones: +382-31-670123, 670025, E-mail: [bkonto@t-com.me](mailto:bkonto@t-com.me)  
Circulation: 220 copies. The end of printing: August 2017

P.S.A.6.

**Temperature responsive hydrogels based on ethylene glycol propylene glycol “block” units with VPTT close to human body temperature**

Edin Suljovrujić, Maja Mičić, Zorana Rogić Miladinović, Dejan Miličević  
Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia

New hydrogels based on different oligo(alkylene glycol) methacrylate (OAGMA) with inverse thermo-response and volume phase transition temperature (VPTT) close to human body temperature were investigated in this work. Synthesis was performed from monomer-solvent mixture by gamma radiation; four different OAGMA (EG6MA, EG6PG3MA, EG3PG6MA and PG5MA) were used. The main focus was made on hydrogels based on EGxPGy pendant chains with different number of ethylene glycol and propylene glycol units in “block” backbone since in the case of POPGMA and POEGMA homopolymers (e.g. hydrogels with pure PG and EG pedant chains) the VPTTs were observed far below and far above the human body temperature, respectively. Characterisation of the hydrogels was performed by swelling, UV-Vis, FTIR, SEM, DSC and in vitro biocompatibility investigations. Due to the possibility to combined VPTT close to human body temperature with good biocompatibility, new hydrogels based on EGPG “block” pedant chains show great potential for biomedical applications.

This work has been supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia (grant No. 172026).