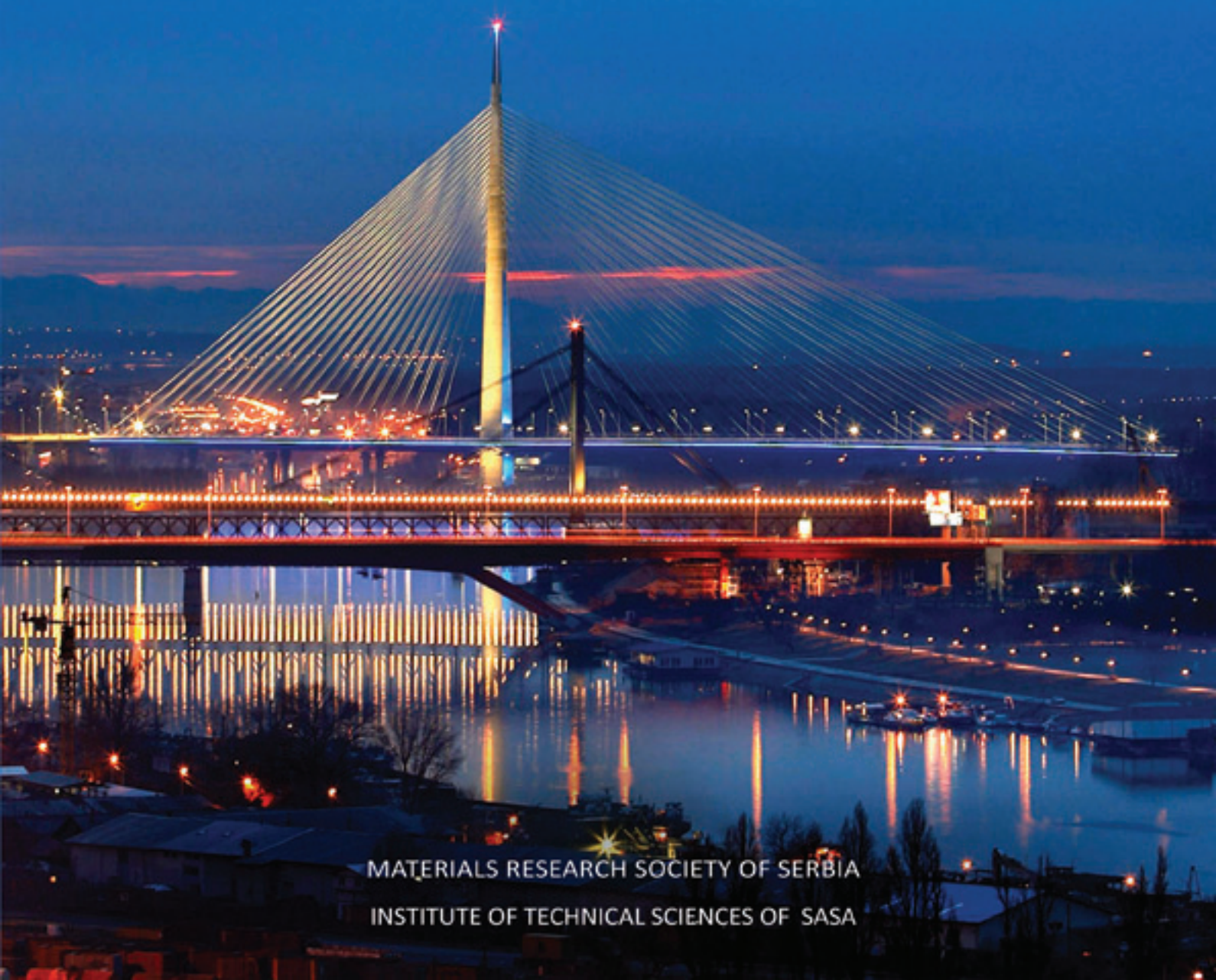


TWELFTH YOUNG RESEARCHERS' CONFERENCE MATERIALS SCIENCE AND ENGINEERING

December 11-13, 2013, Belgrade, Serbia
Serbian Academy of Sciences and Arts, Knez Mihailova 36

PROGRAM AND THE BOOK OF ABSTRACTS



MATERIALS RESEARCH SOCIETY OF SERBIA
INSTITUTE OF TECHNICAL SCIENCES OF SASA

Twelfth Young Researchers' Conference
Materials Science and Engineering

December 11-13, 2013, Belgrade, Serbia
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Program and the Book of Abstracts

Materials Research Society of Serbia
Institute of Technical Sciences of SASA

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Aim of the Conference

Main aim of the conference is to enable young researchers (post-graduate, master or doctoral student, or a PhD holder younger than 35) working in the field of materials science and engineering, to meet their colleagues and exchange experiences about their research.

Topics

Nanostructured materials
New synthesis and processing methods
Materials for high-technology applications
Biomaterials

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Results of the Conference

Beside printed «Program and the Book of Abstracts», which is disseminated to all conference participants, selected and awarded peer-reviewed papers will be published in journals “Tehnika – Novi Materijali” and “Processing and Application of Ceramics“. The best presented papers, suggested by Session Chairpersons and selected by Awards Committee, will be proclaimed at the Closing Ceremony.

XI/5

Biosorption efficiency of Cu (II) ions from aqueous solution by corn cob

Marija Petrović, Tatjana Šoštarić, Jelena Milojković,
Marija Mihajlović, Jelena Petrović, Mirjana Stojanović

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Solid waste from the corn milling process - corn cob was investigated for the removal of Cu(II) from aqueous solutions. Experiments were performed to determine optimum pH, contact time and biosorbent dosage. Results showed that the removal efficiency increased from 3.5 % to 40.1 % at pH ranging 2.0-6.0 within first 10 min. To investigate the effect of biosorbent dosage on biosorption, the experiments were conducted with different biosorbent dosages ranging from 0,1 to 1,0 g. The results show that the removal efficiency increased rapidly as the biosorbent dosage rises from 0,1 to 0,7 g.

XI/6

Asymmetric hydrogel membranes for heavy metal adsorption

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Hydrogels containing strong acid groups have been used in the past for the removal of heavy metals. Unfortunately such hydrogels exhibit poor mechanical properties and are generally difficult to handle. In this work we prepared asymmetric membranes incorporating cross-linked 2-acrylamido-2-methyl-1-propane sulfonic acid (AMPS) hydrogel by combining photopolymerization and liquid phase inversion. An experimental design measuring water content and ion-exchange capacity of these membranes was used to select the optimal membrane composition for the removal of Pb²⁺, Ni²⁺, and Cd²⁺ ions from aqueous solutions. The results demonstrated fast sorption kinetics and high capacity for the investigated metals.