

1s

Hemijiska industrija

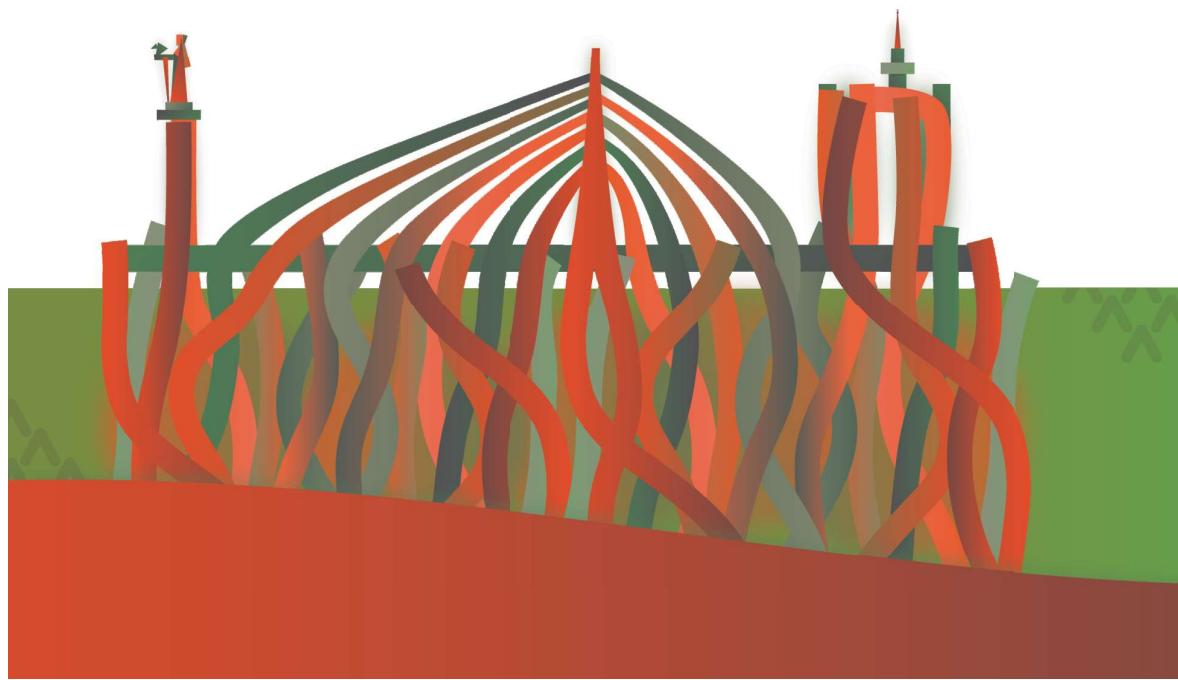
Vol. 78

Časopis Saveza hemijskih inženjera Srbije

Chemical Industry

Supplementary Issue
ExcellMater Conference 2024 Abstracts

Innovative biomaterials
for novel medical devices
Conference 2024



Aktivnosti Saveza hemijskih inženjera Srbije pomažu:



MINISTARSTVO NAUKE,
TEHNOLOŠKOG RAZVOJA
I INOVACIJA
REPUBLIKE SRBIJE



Tehnološko-metalički fakultet
Univerziteta u Beogradu



Prirodno-matematički fakultet
Univerziteta u Novom Sadu



Institut za tehnologiju nuklearnih i
drugih mineralnih sirovina, Beograd



Tehnološki fakultet
Univerziteta u Novom Sadu



Institut za hemiju, tehnologiju i metalurgiju
Univerziteta u Beogradu



Fakultet tehničkih nauka
Univerziteta u Novom Sadu



Tehnološki fakultet
Univerziteta u Nišu, Leskovac



Fakultet tehničkih nauka
Univerziteta u Prištini
Kosovska Mitrovica



Institut IMS, Beograd



DCPHEMIGAL
Leskovac



Barać



Elixir Prahovo



Chemical Industry

Химическая промышленность

Hemijiska industrija

Časopis Saveza hemijskih inženjera Srbije

Journal of the Association of Chemical Engineers of Serbia

Журнал Союза химических инженеров Сербии

VOL. 78

Beograd, mart 2024.

Broj 1s

Izdavač

Savez hemijskih inženjera Srbije
Beograd, Kneza Miloša 9/I

Glavni urednik

Bojana Obradović

Zamenica glavnog i odgovornog urednika

Emila Živković

Pomoćnik glavnog i odgovornog urednika

Ivana Drvenica

Urednici

Jelena Bajat, Dejan Bezbradica, Ivana Banković-Ilić,
Dušan Mijin, Marija Nikolić, Đorđe Veljković, Tatjana
Volkov-Husović

Članovi uredništva

Nikolaj Ostrovski, Milorad Cakić, Željko Čupić, Miodrag
Lazić, Slobodan Petrović, Milovan Purenović,
Aleksandar Spasić, Dragoslav Stojiljković, Radmila
Šećerov-Sokolović, Slobodan Šerbanović, Nikola
Nikačević, Svetomir Milojević

Članovi uredništva iz inostranstva

Dragomir Bukur (SAD), Jiri Hanika (Češka Republika),
Valerij Meshalkin (Rusija), Ljubiša Radović (SAD),
Constantinos Vayenas (Grčka)

Likovno-grafičko rešenje naslovne strane

Milan Jovanović

Redakcija

11000 Beograd, Kneza Miloša 9/I

Tel/fax: 011/3240-018

E-pošta: shi@ache.org.rs

www.ache.org.rs

Izlazi kvartalno, rukopisi se ne vraćaju

Za izdavača: Ivana T. Drvenica

Sekretar redakcije: Slavica Desnica

Izdavanje časopisa pomaže

Republika Srbija, Ministarstvo nauke, tehnološkog
razvoja i inovacija

Upłata preplate i oglasnog prostora vrši se na tekući
račun Saveza hemijskih inženjera Srbije, Beograd, broj
205-2172-71, Komercijalna banka a.d., Beograd

Menadžer časopisa i kompjuterska priprema
Aleksandar Dekanski

Stampa

Razvojno-istraživački centar grafičkog inženjerstva,
Tehnološko-metaluški fakultet, Univerzitet u
Beogradu, Karnegijeva 4, 11000 Beograd

Indeksiranje

Radovi koji se publikuju u časopisu *Hemijiska Industrija*
ideksiraju se preko Thompson Reuters Scietific® servisa
Science Citation Index - Expanded™ i *Journal Citation
Report (JCR)*

Guest Editor:

Ana Janković

Department of Physical Chemistry and Electrochemistry

Faculty of Technology and Metallurgy, University of Belgrade Belgrade, Serbia

SADRŽAJ/CONTENTS

Editorial

ExcellMater Conference 2024: Innovative biomaterials for
novel medical devices

Bojana Obradović 1

Tissue engineering and *in vitro* tissue and organ culture models

Translational studies of engineered human tissues

Gordana Vunjak-Novakovic 3

Regenerative engineering: designing grafts, processes and signals

Ivan Martin 4

Cartilage bioreactors: where we are and where we are going!

Mauro Alini 5

Ex vivo testing of biomaterials for intervertebral disc repair using
organ culture bioreactors

Sibylle Grad 6

Engineering of multicellular systems by hydrodynamic waves

Tiziano Serra 7

Sound based assembly of spatially organized porous constructs

Greta Cocchi, Riccardo Tognato, Lorenzo Moroni, Tiziano
Serra 8

Development of an *in vitro* branched vasculature using
bioprinting technique in combination with sacrificial
materials

Natalija Stojanovic, Nadja Hansen, Horst Fischer 9

Unraveling the transcriptome profile of pulsed electromagnetic
field stimulation in bone regeneration using an *in vitro*
investigation platform

Farah Daou, Rana Zarean Hafdaran, Beatrice Masante,
Stefano Gabetti, Giovanni Putame, Eleonora Zenobi,
Federico Mochi, Cristina Bignardi, Federica Dell'atti,
Francesco Favero, Costantino Del Gaudio, Diana Massai,
Andrea Cochis, Lia Rimondini 10

Whey protein isolate: a versatile dairy-derived hydrogel for bone
and vascular tissue engineering and antimicrobial
applications

Timothy E. L. Douglas 11

Innervation of the musculoskeletal system in physiological and
pathological conditions: Insights from organ-on-a-chip
models

Meriem Lamghari 12

Extracellular vesicles derived from mesenchymal stem/stromal
cells derived from dental pulp of exfoliated teeth induce
osteogenic differentiation

Boosting Institute of Chemistry, Technology and Metallurgy in water biomonitoring - BIOLAWEB

Danijela Vidaković¹, Jelena Avdalović¹, Biljana Dojčinović¹, Aleksandra Marković¹, Srđan Miletić¹, Katarina Milanović¹, Željka Milovanović¹, Vladimir Petrović¹, Dragana Zlatović¹, Benjamin Alric², Herve Dumont², Clarisse Lemonnier², Antoine Moatti², Frederic Rimet², Andreas Ballot³, Susanne Claudia Schneider³ and Miloš Ćirić^{1,*}

¹University of Belgrade, Institute of Chemistry, Technology and Metallurgy, National Institute of the Republic of Serbia, Belgrade, Serbia

²UMR CARRTEL, INRAE, University of Savoie Mont Blanc, Thonon-les-Bains, France

³Norwegian Institute for Water Research, Oslo, Norway

Keywords: Twinning project; lakes monitoring; biodiversity; freshwater ecology; metabarcoding

Hem. Ind. **78(1S)** 77 (2024)

Available on-line at the Journal web address: <http://www.ache.org.rs/HI/>

Project "Boosting Institute of Chemistry, Technology and Metallurgy in Water Biomonitoring" (BIOLAWEB) aims to strengthen the research and innovation capacity of the Institute of Chemistry, Technology and Metallurgy, National Institute of the Republic of Serbia, University of Belgrade (UB-ICTM) in biodiversity assessment and biomonitoring. UB-ICTM researchers made a noticeable contribution to the study of biodiversity, community ecology, and conservation of water bodies in South-Eastern Europe. However, a knowledge on index development and intercalibration following the EU standards for lakes and watercourse monitoring is still lacking in this geographic region. Similarly, there is a knowledge gap in DNA-based ecological status assessment in SEE. Overcoming these gaps and achieving the objectives of the BIOLAWEB is realized through networking with international institutions with a strong expertise in metabarcoding approach and in biological indices development: the French National Research Institute for Agriculture, Food and Environment (INRAE) and the Norwegian Institute for Water Research (NIVA). Staff exchange, common field, and laboratory work, and a variety of courses are used for an effective knowledge transfer from the partnering institutions to UB-ICTM. In order to strengthen research and innovation capacity, through BIOLAWEB project the International Cooperation and Project Office was established at UB-ICTM to support project application, management, and reporting at the international level.

The implementation of the BIOLAWEB results will raise the research profile of the coordinator and partner institutions and contribute to UB-ICTM's vision of becoming a lighthouse for attracting the best talents and tackling the burning issues of environmental assessment.

Acknowledgements: This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101079234.

*Corresponding author E-mail: ciricmilosh@yahoo.com

