Book of Abstracts

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June, 27th-June,30th 2024, Sarajevo
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Society of Chemists and Technologists of Canton Sarajevo
&
Faculty of Science, University of Sarajevo

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DRUŠTVO KEMIČARA I TEHNOLOGA KANTONA SARAJEVO BOSNA I HERCEGOVINA

UNIVERSITY OF SARAJEVO
FACULTY OF SCIENCE

Glasnik hemičara i tehnologa Bosne i Hercegovine

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Zmaja od Bosne 33-35, BA-Sarajevo
Bosnia and Herzegovina
Phone: +387-33-279-918
Fax: +387-33-649-359
E-mail: glasnik@pmf.unsa.ba
glasnikhtbh@gmail.com

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Fax: +387-33-649-359

E-mail: glasnik@pmf.unsa.ba
glasnikhtbh@gmail.com

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Department of Chemistry, Faculty of Science, University of Sarajevo, Sarajevo, Bosnia and Herzegovina
E-mail: chopraamira@yahoo.com

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GENERAL INFORMATION

Congress dates
27 June-30 June 2024 / Sarajevo, B&H
Web: https://icccebih.dktks.ba/

Language
The official language of the ICCCEB&H 2024 is English

Venue and Registration
Hotel Radon Plaza, Džemala Bijedića 185, Sarajevo 71000
Registration desk will be open on Thursday (27 June 2024) from 18:30 to 20:00; Friday (28 June 2024) from 8:00 to 09:00

KEY TO ABSTRACT IDENTIFICATION

PL	Plenary Lectures
KL	Keynote Lectures
OP	Oral Presentations
PP-AC	Poster presentations- Analytical Chemistry
PP-BB	Poster presentations- Biochemistry and Biotechnology
PP-CAM	Poster presentations- Chemistry of Advanced Materials
PP-CE	Poster presentations- Chemical Engineering
PP-CNP	Poster presentations- Chemistry of Natural Products
PP-EDC	Poster presentations- Education in Chemistry
PP-ENC	Poster presentations- Environmental Chemistry
PP-FC	Poster presentations- Food Chemistry
PP-IC	Poster presentations- Inorganic Chemistry
PP-MC	Poster presentations- Medicinal Chemistry
PP-OC	Poster presentations- Organic Chemistry
PP-PTC	Poster presentations- Physical and Theoretical Chemistry
PP-RC	Poster presentations- Radiochemistry
PP-TRC	Poster presentations- Topics Related to Chemistry

OPENING CEREMONY LECTURER

We are honored to announce that Dr. Emira Kahrović, a distinguished scientist, professor emeritus and the only member of our department who is also a member of the Academy of Science and Arts of Bosnia and Herzegovina, will deliver a lecture at the grand opening of the Congress. Dr. Kahrović is recognized as one of the leading experts in the field of chemistry in general, and particularly inorganic chemistry, with a long-standing career and numerous significant contributions to science.

Throughout her illustrious career, Dr. Kahrović has published a series of studies that have greatly advanced our understanding of chemical processes in the field of Inorganic Chemistry. Her passion for science and dedication to research have inspired many young scientists to follow in her footsteps.

Dr. Kahrović's lecture at this congress represents a unique opportunity for all participants to hear firsthand about the latest advancements in chemistry, as well as her own experiences and challenges in scientific work. Her presentation will be rich with valuable insights and motivation, which will undoubtedly enhance the congress program.

Dr. Emira Kahrović

Faculty of Science, University of Sarajevo, Bosnia and Herzegovina

Academy of Sciences and Arts of Bosnia and Herzegovina

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University of Graz
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University of Belgrade
Serbia

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WELCOME NOTE

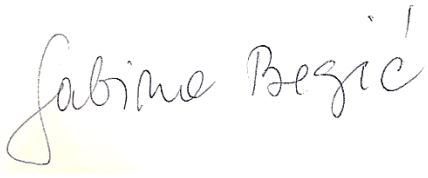
On behalf of the Organizing and Scientific Committee, the Society of Chemists and Technologists of Canton Sarajevo, and the University of Sarajevo - Faculty of Science, it is my great pleasure to welcome you to the 5th International Congress of Chemists and Chemical Engineers of Bosnia and Herzegovina (5th ICCCEB&H 2024) in Sarajevo.

I am thrilled to host this gathering of brilliant minds and passionate professionals from around the world, all united by a common goal: to advance the field of chemistry and harness its potential for the betterment of society. This congress marks a significant milestone in our ongoing journey of discovery and innovation. Over the next few days, we will have the opportunity to share groundbreaking research, exchange ideas, and foster collaborations that will shape the future of chemistry. Our diverse program includes plenary lectures, keynote lectures, oral and poster sessions, all designed to stimulate intellectual curiosity and inspire new avenues of thought.

All submitted abstracts will be published in a special issue of the Bulletin of Chemists and Technologists of Bosnia and Herzegovina, and selected papers will be published in an issue of the Bulletin of Chemists and Technologists of Bosnia and Herzegovina after the peer-review process.

Thank you for being here and contributing to the 5th International Congress of Chemists and Chemical Engineers of Bosnia and Herzegovina. We look forward to engaging with you and witnessing the remarkable progress that will emerge from our collective efforts. We thank the members of the Organizing Committee, International Scientific and Advisory Committee, Scientific Committee, and last but not least, all the participants for organizing, supporting, and contributing to the quality of this Congress. We are grateful for their hard work and commitment to making this congress a success. This event would also not be possible without the generous support of our sponsors.

We welcome all of you once again to the 5th ICCCEB&H 2024 and wish you an interactive, inspiring, and joyful scientific gathering and a pleasant stay in Sarajevo, Bosnia and Herzegovina.



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Abstract

PP-ENC-14

Pyrophyllite as a Sustainable Material for Purification of Mine-Waste Water

Trtić-Petrović, T.[a], Lazarević, D.[a], Jovanović, J.[a], Šaraba, V.[a], Kurtanović, E.[b], Marković, I. [b], Harbinja, M.[b]

[a]*Vinča Institute of Nuclear Sciences, National Institute of the Republic of Serbia, University of Belgrade Mike Petrovića Alasa 12-14, Belgrade, Serbia*

[b]*Innovative Scientific Development Center (INRC), AD HARBI Ltd. Sarajevo, Tvornička 3, Sarajevo, Bosnia and Herzegovina*

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***Corresponding author:**
Tatjana Trtić-Petrović
ttrtic@vin.bg.ac.rs

Abstract: Wastewater from mines poses a significant problem as it often contains high concentrations of metals, which are discharged into river systems, thereby contributing to environmental pollution. Pyrophyllite is a natural hydrous aluminum silicate clay mineral ($Al_2Si_4(OH)_{10}(OH)_2$) with a high melting point, stable chemical properties, and low cost. The elementary sheet of pyrophyllite is composed of an aluminum-oxygen/hydroxyl octahedral layer between two tetrahedral layers of silicon-oxygen. The layered silicate structure of pyrophyllite crystals has natural adsorption activity. Mechanochemical activation (MCA) is a simple method for modification of solid materials that causes structural disorder, amorphization and increased chemical reactivity. MCA, usually performed by grinding, is an environmentally friendly process because of low energy consumption, processing temperatures and cost. This study investigates the adsorption kinetics of the divalent metal ions (Cd, Ni, Cu, Zn, and Pb) from aqueous solutions using pyrophyllite as an adsorbent. It was found that the removal depends on the mechanochemical treatment of pyrophyllite, contact time with the aqueous solution, and the mutual competition of ions. The conditions were optimized for maximum removal of metal ions from synthesized aqueous solutions. Subsequently, pyrophyllite was applied under optimal conditions for removing Zn (II) from the wastewater of the closed Red Hill mine on mountain Avala. Based on the obtained results, it can be concluded that pyrophyllite completely removes zinc from mine water in a very short time (10 minutes) and thus has great potential for application.

Acknowledgment

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