

# EEM2023 - an event focused on current issues concerning sustainable development, environmental protection and process industry

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**Abstract:** The 8<sup>th</sup> International Congress “Engineering, Environment and Materials in Process Industry” – the Faculty of Technology Zvornik, University of East Sarajevo, organize EEM2023. The focus of this event is a comprehensive and multidisciplinary approach to current issues concerning sustainable development, environment protection and process industry, aiming to develop new projects and exploit new technologies for sustainable applications. The congress aims to help researchers, scientists and academia discover new directions in research, development and education by providing an overview of the state-of-the-art findings and trends in the field and offering a platform for exchanging ideas.

**Keywords:** Engineering; Environment; Materials; Process industry; EEM2023

## 1. Introduction

The Faculty of Technology Zvornik, University of East Sarajevo, organized the 8<sup>th</sup> International Congress “Engineering, Environment and Materials in Process Industry” – EEM2023 at the Olympic ski resort of Jahorina from March 20<sup>th</sup> to March 23<sup>rd</sup>, 2023. The EEM conference is the first category international scientific congress in the Republic of Srpska and Serbia. Congress has gathered over 1200 researchers and professionals for the past fourteen years and over 1500 submissions from over sixty countries. This is the second time the Congress has been organized as a hybrid event, gathering participants in person and through an on-line platform (Fig. 1).



**Figure 1.** The EEM2023 was held as a hybrid event.

Continuing the tradition of the past seven events, EEM2023 offered a platform for bringing together academia, researchers, business entrepreneurs, practitioners, and policymakers, allowing them to share their recent theoretical knowledge, research findings, and experiences in dealing with sustainable solutions and innovative ideas in the area of chemical engineering and technology. As such, EEM2023 featured presentations by internationally renowned speakers, which are cutting-edge session topics.

## 2. Congress Program

The 8<sup>th</sup> International Congress EEM2023 gathered eminent researchers and professionals from over 27 countries. A total of 195 papers were submitted on the following topics:

- Chemical and Electrochemical Engineering,
- Food Engineering and Biotechnology,
- Environmental Engineering,

- Materials and Material Characterization,
- Nanotechnology,
- Inorganic Chemistry and Technology,
- Organic Chemistry and Technology, Polymers,
- Plasma Technology,
- Energy Efficiency and Renewable Energy Sources,
- Textile Engineering,
- Corrosion and Protection of Materials and Thermal Power Plants,
- Metallurgy,
- Management in the Process Industry,
- Aluminosilicate Materials and Technology.

The congress program was organized through plenary lectures, invited lectures, and poster presentations. A total of six plenary lectures were held:

- Maria Loizidou (National Technical University of Athens, Greece) - Sustainable waste and biowaste management,
- Zoran Petrovic (Serbian Academy of Sciences and Arts) - Physical foundations of Non-equilibrium plasmas as the basis for technologies ranging from Nanoelectronics to Plasma Medicine and plasma applications in agriculture,
- Mariya Shamzhy (Charles University, Prague, Czech Republic) - Tailoring active sites in zeolite-based catalysts,
- Srecko Stopic (RWTH Aachen University, Germany) - Advances in the synthesis of new materials and understanding of unit operations in ecological metallurgical engineering,
- Rui Costa (Polytechnic Institute of Coimbra, Portugal) - Seaweed in Food: Opportunities and Challenges,
- Suzana Apostolov (University of Novi Sad, Serbia) - Chromatographic parameters as predictors of phenylacetamide derivatives' biological activity.

The EEM2023 was held at the Termag Hotel, Jahorina ski resort, with virtual streaming of all speakers available for those unable to attend in person. All the participants had the opportunity to present their work as part of a collection of electronic poster presentations showcased on-line and on-site (Fig. 2). Poster presentations were organized through two sessions, A and B. Poster session A included papers from the field of Engineering and Technology. In contrast, poster session B presented papers from Chemistry, Environment, Materials, and Other Areas.



**Figure 2.** On-site and on-line poster presentations.

### 3. Business-to-Business (B2B) meetings and Special Topics

In the age of globalization, the more rapid development of science and society depends on innovations in the field of materials and technologies, taking into account both the current needs of the economy and industry and the efforts to preserve the environment as a prerequisite for our survival, which makes the topics defined at the EEM2023 the more urgent. The Engineering, Environment and Materials in Process Industry is an opportunity for members of the academic community to exchange the results of their work internationally and gain insight into the possibilities of applying their research results in practice.

This year, EEM2023 included Business-to-Business (B2B) meetings, allowing industry representatives to exchange their ideas with the participants at the Congress. Nowadays, the progress of human societies is highly dependent on the development of technology, industry, and economy. As the propelling engine for growth and development, research and exchanging know-how are increasingly becoming important for society. The first step in achieving effective communication to cooperation between the industry and academia. The industrial sector can put forth the real problems encountered in practice and draw attention to those areas and processes that should be improved. Academia, on the other hand, should provide information about its capabilities and try to address the needs of the industry. We find EEM2023 to be a unique opportunity for exchanging know-how and technologies, considering a large number of representatives of both these communities who took part this year. This event will undoubtedly encourage all parties to extend their cooperation further, bringing about new projects and publications and promoting industrial development in and abroad.



Another novelty is that EM2023 dedicated a whole workday to the topic named *Aluminosilicate Materials and Technology*, as one of the most rapidly developing branches of the process industry. These materials have an extensive range of applications and, as such, deserve special attention through research, particularly in material characterization, production technologies, development of new products with broad applications, and many other areas. The EEM2023 participants had the opportunity to publish their manuscripts in this field, have discussions with the relevant representatives of the industrial sector and leaders in this industry field in our region, and listen to exquisite plenary talks.

#### 4. EEM2023 Organizational Support

The EEM2023 was held under the auspices of the Ministry of Economy and Entrepreneurship of the Republic of Srpska and the Academy of Sciences and Arts of the Republic of Srpska. The general sponsors of the event were the City of Zvornik, Alumina Ltd. Zvornik and Zeochem Ltd. Zvornik, with numerous other companies also participating as sponsors (Elixir Zorka Šabac, Inving Invest Inženjering Prijedor, EKP Elker Ljubija, the Municipality of Lopare, Association for the International Development of Academic and Scientific Collaboration (AIDASCO), Zlatno Zrno East Sarajevo and Municipality of Srebrenica, to name but a few). The event was co-organized by the Union of Engineers and Technicians of the Republic of Serbia, the Faculty of Technology and Metallurgy in Belgrade, the Institute of Physics, Belgrade, the Faculty of Food Technology Osijek, and the Faculty of Technology from Banja Luka.

This year's event was supported by internationally renowned scientific publishers, such as MDPI, the Association of Chemical Engineers of Serbia, Engineering Society for Corrosion Serbia, and the Faculty of Technology Banja Luka, and their supporting publications *Molecules*|Special Issue "Conventional and Emerging Extraction Techniques for Compounds from Natural Source and Food" [1], *Molecules*|Special Issue "Modeling Adsorption Properties of Molecular and Nanostructured Systems for Environmental Applications" [2], *Hemijska industrija* [3], *Materials Protection* [4], *Journal of Chemists, Technologists and Environmentalists* [5], and *Journal of Engineering & Processing Management* [6], published by the Faculty of Technology Zvornik. The EEM2023 abstracts were all published in the Book of Abstracts [7], and the full manuscripts will be published in the Proceedings of Congress.

The organizations endorsing the EEM2023 were the ISEKI-Food Association, which is an independent European non-profit organization aiming to establish cooperation in a food production chain, and the European Federation of Chemical Engineering (EFCE), the oldest European Union program designed to promote cooperation and help connect research initiatives across Europe and beyond.

## 5. Conclusions

Compared to the data from the previous events and judging by the number of submissions and the attendance of authors and co-authors, especially young researchers, we can conclude that the EEM2023 congress had an excellent turnout. The number of affiliating institutions was also remarkable. A significant number of submissions were related to the problems and topics defined by the national strategies and international projects. The congress once again managed to provide both on-site and on-line participation and achieve the goals that had been set, and the overall conclusion is that it was a great success.

## References

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