

BOOK of ABSTRACTS

27th Congress of Chemists and Technologists of Macedonia

27

2024

25-28 9 2024 OHRID, RN MACEDONIA





**Сојуз на хемичарите и технолозите на
Македонија
Society of Chemists and Technologists of
Macedonia**

27th Congress of SCTM

BOOK of ABSTRACTS

**25–28 September 2024
Metropol Lake Resort
Ohrid, N. Macedonia**

Skopje, 2024



Сојуз на хемичарите и технолозите на Македонија
Society of Chemists and Technologists of Macedonia
25–28 September 2024, Metropol Lake Resort, Ohrid

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Dear Esteemed Colleagues and Participants,

We are pleased to present the Book of Abstracts for the 27th Congress of the Society of Chemists and Technologists of Macedonia. Like our previous congresses over the past two decades, this event takes place in the cradle of Slavic literacy—a region with a rich history of intellectual accomplishments. We trust that the heritage, along with the beauty of Lake Ohrid and the city itself, will not only make your stay enjoyable but also serve as an added source of inspiration for your own work.

The SCTM congresses have grown into a prominent platform for regional researchers from all fields of chemistry and chemical engineering. We are honored to welcome plenary and invited speakers not only from Macedonia but also from countries like Czechia, Denmark, Italy, Serbia, Spain, and the United Kingdom. In addition, we are proud to feature a wide range of oral and poster presentations from researchers representing Austria, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Germany, Greece, Italy, Kosovo, Montenegro, Poland, Serbia, Slovenia, Spain, Romania, and Russia. With nearly 200 presentations from 550 authors and co-authors, it is especially gratifying to see many attendees returning as regular participants.

We hope this Book of Abstracts serves as both a source of inspiration and a record of the exceptional work presented at the 27th SCTM Congress. Let's use this opportunity to celebrate not only our achievements but also our resilience, determination, and steadfast commitment to advancing knowledge. Together, we can overcome challenges and, through our collective efforts, continue to drive innovations that make a positive impact on the world.

We extend our heartfelt gratitude to Prof. Jadranka Blaževska Gilev and Prof. Biljana Angjuševa for once again taking on the challenging task of organizing this year's congress. Their tireless efforts and dedication ensured the event's success. We also wish to thank all the members of the scientific and organizational committees who worked tirelessly behind the scenes, with special recognition to Assoc. Prof. Vojo Jovanov, Marija Prosheva and Despina Kostadinova for their management of the website, Book of Abstracts, and other essential tasks.

Our thanks also go to the reviewers and participants whose contributions have been vital to the success of this Congress. Your commitment to the scientific mission emphasizes the value of collaboration, especially during uncertain times. It is through the exchange of ideas, sharing of knowledge, and building of connections that we strengthen our community and advance our fields. Lastly, we express our sincere gratitude to the sponsors, acknowledged at the end of this book, for their generous support.

Prof. Zoran Zdravkovski, president

Society of Chemists and Technologists of Macedonia



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Enhancing Environmental Management of Mining Legacies: Database, Mapping, and Monitoring Insights from COST Action REMINDNET

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Since the beginning of human history, metals and minerals have been extracted from the Earth's crust. However, the environmental residues left by the mining sector, such as tailings, waste dumps, and contaminated water, the management of mine closure and post-closure is becoming more and more significant. Many regions in Europe and around the world are struggling with these problems, frequently lacking the resources and expertise needed to properly manage old mine sites effectively.

The aim of this paper aligns with the primary objective of the REMINDNET action and Working Group 3 (WG 3) which is to map best practices for mine site rehabilitation and provide cost-effective monitoring methods and risk management tools.

The QGIS database, following best practices for mining rehabilitation, will be continually updated throughout the duration of the COST Action and is visualized in a Web GIS app using the open-source software GeoServer and MapStore. Furthermore, a Python script that makes use of the Landsat satellite constellation has been developed for efficient monitoring of mining locations. All of these methods improve Europe's capacity to track, restore, and manage the environmental effects of mining legacies.

Keywords: Mine Rehabilitation, Environmental Monitoring, Risk Management, QGIS Database

Acknowledgments: This work was supported by COST Action CA22138: Recovery of Mining District Network (REMINDNET). We thank the network of scientists and practitioners for their collaboration and contributions. Additional information about the COST Action can be found at <https://www.remindnet.eu/>.