

BOOK of ABSTRACTS

**27th Congress
of Chemists
and Technologists
of Macedonia**

**27th Конгрес на
Хемичари и
Технолози
на Македонија**

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

27th Congress of SCTM

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25–28 September 2024

Metropol Lake Resort

Ohrid, N. Macedonia

Skopje, 2024



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Society of Chemists and Technologists of Macedonia
25–28 September 2024, Metropol Lake Resort, Ohrid

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The 27th Congress of SCTM is a



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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



BFT P-5

Phytochemical Potential of Cultivated Berries from the Area of the Pešter Plateau (Serbia)

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The fruit-growing culture is widely represented throughout Serbia. Most often, raspberries are grown (for commercial purposes), but also blackberries and blueberries. In this study, the berry fruits (chokeberry, cherry, red currant, black currant, and raspberry) that are grown in the area of the Pešter Plateau region were examined to determine the level of secondary metabolites. The total phenolics, flavonoids, tannins, and anthocyanins were evaluated. Fruit samples were taken at the time of full maturity. The highest concentration of all total phenols was recorded in chokeberry fruits (38.55 mg GA g⁻¹ of extract). Chokeberry fruits also contain the highest concentration of anthocyanins (14.09 µg mL⁻¹ of extracts). Blackcurrant fruits have the highest concentration of flavonoids (6.92 mg Ru g⁻¹ of extract) and tannins (0.59 mg mL⁻¹ of extract). Surprisingly low concentrations of phenols were recorded in the fruits of red and dark currants (0.71 and 3.75 mg GA g⁻¹ of extract). The concentration of flavonoids is fairly uniform in all samples. The concentration of anthocyanin in the fruits of cherry, red currant, and raspberry has several times lower concentrations than chokeberry. The tannin concentration is uniform in the examined fruits and ranges from 0.062 mg mL⁻¹ of extract (cherry) to 0.59 mg mL⁻¹ of extract (blackcurrant).

Our results show that cultivated berries from the Pešter Plateau have high concentrations of bioactive substances, which makes them recommendable for dietary use. This result can be related to the fact that this fruit grows in unspoiled environmental conditions.

Keywords: cultivated berries, Pešter Plateau, secondary metabolites, bioactive compounds.