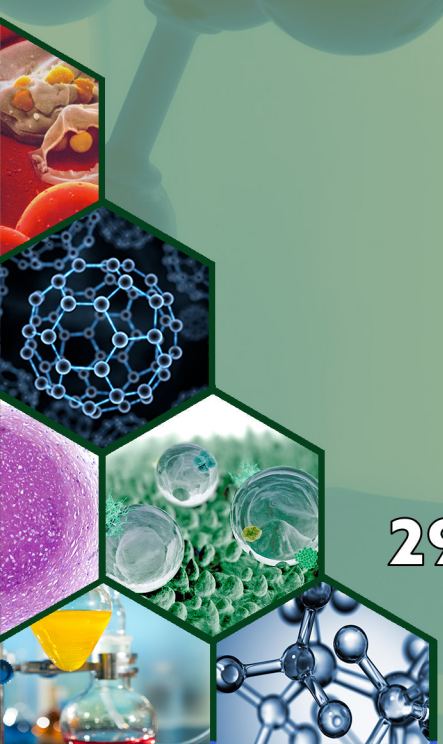
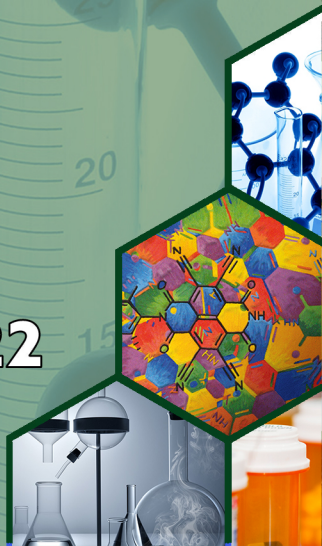
Serbian Chemical Society
Serbian Young Chemists' Club

Eight Conference
of the Young Chemists of Serbia

Book of Abstracts





Belgrade
29th OCTOBER 2022

8th Conference of Young Chemists of Serbia

Book of Abstracts

29th October 2022
University of Belgrade, Faculty of Chemistry

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Belgrade, 29th October 2022
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European Young Chemists' Network

Dr. Maximillian Menche, chair of the EYCN

Sponsorship

The organizing committee is grateful for the donations of the selected sponsor participants

European Young Chemists' Network

Analysis doo

Ministry of Education, Science and Technological Development, Republic of Serbia

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Acknowledgement to the University of Belgrade, Faculty of Chemistry for the use of the space of the Faculty during the 8th Conference of Young Chemists' of Serbia.

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Deeply acknowledgments to the European Young Chemists' Network and European Chemical Society for the financial support of the best oral and poster presentations.

Thanks to the Analysis d.o.o. for support and the promoting material.

Contents

Scientific Program

Time	Program
9:00	*Registration of the participants* Mounting posters for the Poster Session 1 (**ODD POSTER NUMBERS**)
10:00	*Conference opening* Serbian Chemical Society – Dušan Sladić Scientific Committee – Vuk Filipović Serbian Young Chemists' Club presentation – Mihajlo Jakanovski
10:15	*Plenary Lecture* (**PP OP 01**) Ilija Cvijetić *University of Belgrade, Faculty of Chemistry*
11:00	*Oral presentations, Session 1*
	Zorica Novaković (**CMN OP 01**) *University of Novi Sad, Faculty of Sciences*
	Marija Kaluđerović (**OC OP 01**) *University of Montenegro, Faculty of Metallurgy and Technology*
	Marija Milošević (**MS OC 01**) *University Of Belgrade, Faculty of Technology and Metallurgy*
11:35	*Coffee break*
11:50	*European Young Chemists' Network (EYCN) ZOOM presentation* Maximillian Menche – Chair of the EYCN "The European Young Chemists' Network and the Power of Networking"
12:05	*Invited Lecture* (**PPP OP 01**) Ivana Kuzminac *University of Novi Sad, Faculty of Sciences*
12:40	*Oral presentations, Session 2*
	Dušica Jovanović (**TC OP 01**) *University of Belgrade, Institute of Nuclear Science Vinča* *University of Niš, Faculty of Science and Mathematics*
	Milica Đukić (**IAC OP 01**) *University Of Belgrade, Faculty of Technology and Metallurgy*
	Jovana Jovanović (**OC OP 02**) *University of Montenegro, Faculty of Medicine*
	Slađana Đorđević (**TC OP 02**) *University of Kragujevac, Faculty of Science*
13:25	***GROUP PHOTO***
13:30	*Poster session 1* (**ODD POSTER NUMBERS**)
14:15	*Lunch* Removing posters from Poster Session 1 Mounting posters for Poster Session 2 (**EVEN POSTER NUMBERS**)

15:00	*Invited Lecture* (**PPP OP 02**) Branko Kordić *University of Novi Sad, Faculty of Sciences*
15:35	*Oral presentations, Session 3*
	Dušan Ružić (**MC OP 01**) *University of Belgrade, Faculty of Pharmacy*
	Ana-Andrea Holik (**CE OP 01**) *University of Belgrade, Faculty of Chemistry*
	Aleksa Savić (**BB OP 01**) *University of Belgrade, Faculty of Chemistry*
16:10	*Poster session 2* (**EVEN POSTER NUMBERS**)
17:00	*Break*
17:15	*Closing ceremony* • ***Best Oral Presentation Award*** Board: Vuk Filipović, Ivana Kuzminac, Ilija Cvijetić • ***Best Poster Presentation Award*** Board: Jelena Milovanović, Branko Kordić
17:45	*End of the Conference*

POSTER NUMBER is the last part of contribution code, e.g. XY PP **15**.

VENUE:

- Lectures and oral presentations will be taken place at the **large chemistry amphitheater (VHA)** on the ground floor.
- The Poster sessions will take place in the **hallway in front of the library** on the 1st floor.

BB PP 01

Detection and bioremediation of petroleum pollutants in groundwater of alluvial aquifer of the Sava river, Serbia

Sandra Bulatović[1], Mila Ilić[1], Tatjana Šolević Knudsen[1], Aleksandra Nastasović[1]
[1]*University of Belgrade, Institute for Chemistry, Technology and Metallurgy, National Institute of the Republic of Serbia, Belgrade, Serbia*

Bioremediation is cheap, efficient, green technology that provides degradation of organic compounds by microorganisms. Products of biodegradation can be less toxic compounds or CO_2 and H_2O, when biodegradation is complete. The aim of this research was detection and biodegradation of petroleum pollutants in the groundwater from alluvial aquifer of the Sava river in the vicinity of one of the largest district heating plants in New Belgrade (Serbia). The heating plant "New Belgrade" has been using petroleum products as fuel for decades. Total Petroleum Hydrocarbons (TPH) were analyzed in 10 groundwater samples collected from boreholes at the depths from 8 to 11 m. From these samples, TPH were isolated using extraction method with *n*-hexane. TPH was further analyzed by gas chromatography with flame ionization detector (GC-FID). In this study bioremediation was applied in order to degrade TPH in the groundwater of the investigated location. This research lasted for one year [1].

In the sample P-5 the initial concentration of TPH was 1.39 mg/L and it was 0.02 mg/L at the end of the bioremediation, with TPH reduction of 98.55 %. In the sample P-6, the initial concentration of TPH was 1.76 mg/L, while at the end of the bioremediation it was 0.03 mg/L, with TPH reduction of 98.30 %. In the sample P-7, the initial concentration of TPH was 1.57 mg/L, and at the end of bioremediation it was 0.03 mg/L with TPH reduction of 98.09 %. It can be concluded that this approach was very successful, with an efficiency of approximately 100 % [1, 2].

References

1. S. Bulatović, N. Marić, J. Avdalović, M. Ilić, B. Jovančićević, M. M. Vrvić. *J. Serb. Chem. Soc*. **2020**, *85 (8)*, 1.
2. S. Bulatović, Petroleum pollutants and heavy metals as indicators of anthropogenic impact on the Sava river aquifer near the thermal power plant in New Belgrade. Doctoral dissertation, University of Belgrade, Faculty of Chemistry, Belgrade **2022**.

Acknowledgments

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