

2nd SFUS scientific symposium

Pharmacy and the Nature - Complex Relations and Mutual Impacts

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Abstract

From the idea of a pharmaceutical product, through the development of materials and technologies for their production, analysis, and control, application in different patient populations, to the proper disposal and destroying of pharmaceutical waste, everything is connected and has an impact on the soil, water, and air, as well as to all living beings on this planet. Intending to invite the colleagues to consider how their pharmacy practice, science, and education can impact nature and global environmental trends, Pharmaceutical Association of Serbia has organized the 2nd SFUS scientific symposium, entitled **Pharmacy and the Nature - Complex Relations and Mutual Impacts** on 28th October 2021, in the conference center of the Science and Technology Park Belgrade, with the presence of more than 60 participants. Within the Symposium, the introductory lecture was held by Prof. Dr. Nada Kovačević, along with eight invited lectures, three oral presentations, and thirty-two poster presentations.

Keywords: sustainable pharmacy practice and research; green pharmacy; environmental protection.

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BOOK AND EVENT REVIEW

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Nature represents the unity of the earth, water, air, and all living beings. Mankind affects life on our planet differently, often through gross violations of natural laws and delicate, subtle connections and mutual influences between the environment and different sorts and forms of the living world. Numerous initiatives over the last decades indicate that every human activity and "world of people" should be observed and evaluated from the aspect of environmental impact. The development of the economy and society must be based on technologies in harmony with nature. The use of natural resources has to be organized and controlled without the devastation of natural habitats, violation of natural laws, and environmental disasters.

The International Pharmaceutical Federation (FIP) [1] has been involved in these kinds of initiatives by publishing appropriate strategic documents and policies on environmentally sustainable pharmacy practice. This indicates that pharmacists in various fields of pharmaceutical activities must take responsibility for reducing the environmental consequences of drug production, distribution, and usage (FIP Green pharmacy practice: Taking responsibility for the environmental impact of medicines [2]).

In the field of health, preservation, and improvement of the health of individuals and society, nature is essential not only as a source of pharmaceutically active and auxiliary substances but also as a source of ideas, different problems, and solutions which are hidden somewhere, and are usually simple, but should be discovered and well understood. From the idea of a pharmaceutical product, through the development of materials and technologies for their production, analysis, and control, application in different patient populations, to the proper disposal and destroying of pharmaceutical waste, everything is connected and has an impact on the soil, water, and air, as well as to all living beings on this planet.

Intending to invite the colleagues to consider how their pharmacy practice, science and education can impact nature and global environmental trends, Pharmaceutical Association of Serbia has organized the 2nd SFUS scientific symposium with international participation, entitled **Pharmacy and the Nature - Complex Relations and Mutual Impacts** in October 2021. This event was an opportunity to share the results, thoughts, and experiences and consider how scientific discoveries and solutions affect the world we live in.

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*The introductory lecture held by Prof. Dr. Nada Kovačević at the 2nd SFUS scientific symposium **Pharmacy and the Nature - Complex Relations and Mutual Impacts***

The second scientific symposium of the Pharmaceutical Association of Serbia was held on October 28, 2021 in the conference center of the Science and Technology Park Belgrade, with the presence of more than 60 participants. Within the Symposium, the introductory lecture **Pharmacy and nature - plenty of diversity** was held by Prof. Dr. Nada Kovačević, along with eight invited lectures, three oral presentations and thirty-two poster presentations. Invited speakers who equally contributed to the high-quality program of the Symposium were:

- Christophe Marčić, Faculté de Pharmacie, Université de Strasbourg, France: **Natural deep eutectic solvent – a green alternative for extraction and separation science.**
- Ivana Aleksić, University of Belgrade, Faculty of Pharmacy, Belgrade, Serbia: **Green pharmaceutical manufacturing: approaches and perspectives.**
- Nikola Stefanović, University of Niš-Faculty of Medicine, Niš, Serbia: **Significance of pharmacogenetics in modern medicine and pharmacy.**
- Aleksandra Buha Đorđević, University of Belgrade, Faculty of Pharmacy, Belgrade, Serbia: **Endocrine-disrupting pharmaceuticals in the environment-threat to the health and safety of humans and aquatic species?**
- Marina Odalović, University of Belgrade, Faculty of Pharmacy, Belgrade, Serbia: **Green pharmacy - recommendations for pharmacy practice improvement**
- Bojana Obradović, University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, Serbia: **Multifunctional composites based on alginate hydrogels for potential use in wound dressings**
- Biljana Otašević, University of Belgrade, Faculty of Pharmacy, Belgrade, Serbia: **New strategies in the development of ecologically friendly RP-HPLC methods based on the charged aerosol detector.**
- Dragana Vasiljević, University of Belgrade, Faculty of Pharmacy, Belgrade, Serbia: **Organic and natural cosmetic products - who benefits the most?**

Abstracts were published in the Supplement edition of the Archives of Pharmacy Vol. 5, 2021 [3].



Poster session at the 2nd SFUS scientific symposium *Pharmacy and the Nature - Complex Relations and Mutual Impacts*

Awards for the best poster presentations were given to: Nevena Đajić, University of Belgrade, Faculty of Pharmacy (PP30 Poster entitled: **Chemometrically supported UHPLC method development: a strategy for achieving eco-friendliness**), Ana Gledović, University of Belgrade, Faculty of Pharmacy (PP19 Poster entitled: **Low energy nanoemulsions as potential carriers for essential oils in formulations for antioxidant skin protection**) and Darija Szadanić, University of Novi Sad, Faculty of Medicine (PP10 Poster entitled **Daily intake of anthocyanins and polyphenols provided by the consumption of bilberry-based juices**).



Best poster awards announcement at the 2nd SFUS scientific symposium *Pharmacy and the Nature - Complex Relations and Mutual Impacts*



Closing ceremony and the group photo of the 2nd SFUS scientific symposium *Pharmacy and the Nature - Complex Relations and Mutual Impacts*

Through gathering academics and professionals from the different fields of pharmaceutical sciences at this meeting, we aimed to raise the awareness about different aspects of environmental preservation and protection. Even more importantly, we hope that such events would initiate that each participant start to contemplate his/her own research work and its impact on the nature, to think about our everyday life, work, and behavior and the ways we can contribute to protecting the environment and save our planet.

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SAŽETAK

Drugi naučni simpozijum Saveza farmaceutskih udruženja Srbije: Farmacija i priroda - kompleksne relacije i međusobni uticaji

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(Prikaz knjiga i događaja)

Od ideje za farmaceutski proizvod, preko razvoja materijala i tehnologija za njihovu proizvodnju, analizu i kontrolu, primene kod različitih populacija pacijenata, do pravilnog odlaganja i uništavanja iskorišćenog i neiskorišćenog materijala i proizvoda, sve je povezano i ima uticaj na zemlju, vodu i vazduh, kao i na sva živa bića na ovoj planeti. Sa ciljem da se bolje razmotri na koji način aktivnosti u okviru farmaceutske struke, nauke i obrazovanja mogu da utiču na prirodu i globalna ekološka kretanja, održan je 2. naučni simpozijum pod naslovom **Farmacija i priroda – kompleksne relacije i međusobni uticaji**. Simpozijum je organizovao Savez farmaceutskih udruženja Srbije i održan je 28. oktobra 2021. godine u konferencijskom centru Naučno-tehnološkog parka Beograd, uz prisutvo više od 60 učesnika. U okviru Simpozijuma je održano jedno uvodno predavanje, osam predavanja po pozivu, tri usmena saopštenja i prikazane su trideset i dve poster prezentacije.

Ključne reči: održiva farmaceutska praksa i istraživanja, zelena farmacija, zaštita životne sredine