FORS²D

FORESTRY SCIENCE FOR SUSTAINABLE DEVELOPMENT

BOOK OF ABSTRACTS

"Perspectives of forestry and related sectors as drivers of sustainable development in the post-Covid era"

**Banja Luka, the Republic of Srpska / Bosnia and Herzegovina
29–30 September 2022**

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BOOK OF ABSTRACTS

International Scientific Conference
FORESTRY SCIENCE FOR SUSTAINABLE DEVELOPMENT - FORS^{2}D
Perspectives of forestry and related sectors as drivers of sustainable development in the post-Covid era

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FORESTRY SCIENCE FOR SUSTAINABLE DEVELOPMENT

"Perspectives of forestry and related sectors as drivers of sustainable development in the post-Covid era"

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UNIVERSITY OF BANJA LUKA
ШУМАРСКИ ФАКУЛТЕТ
FACULTY OF FORESTRY

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Foreword

Dear participants and friends,

The International Scientific Conference "***Forestry science for sustainable development FORS2D – Perspectives of forestry and related sectors as drivers of sustainable development in the post-Covid era – FORS2D***" in Banja Luka is held on the occasion of important Jubilee (30 years) of the Faculty of Forestry, University of Banja Luka, and 30 years of PFE "Šume Republike Srpske" a.d. Sokolac, in cooperation with FAO (*United Nations Food and Agriculture Organization*). Considering global changes that we are facing, the importance of forests cannot be underestimated. We depend on forests for our survival, from the air we breathe to the wood we use, but without education and scientific research we cannot promise sustainable development or sustainable forestry. Besides basic functions of forests needed for humans, forests also offer climate change mitigation, watershed protection, prevent soil erosion and torrential floods that we are frequently facing in recent decades. Unfortunately, despite our dependence on forests, we are still allowing them to disappear.

This Conference will give an opportunity for participants to address important issues related to forestry, exchange recent research, knowledge and experiences in forestry and related fields, to establish functional international cooperation among institutions, to improve cooperation between forestry science and practice and finally to forestry as important sector for human well-being at local, national and global level.

The Conference is organized in nine sessions along different themes. Together there are five plenary lectures, 64 oral presentations and 64 poster contributions, with more than 120 participants.

As announced, authors, the reviewed and accepted papers are going to be published in the Bulletin of the Faculty of Forestry, University of Banja Luka (http://glasnik.sf.unibl.org).

We wish you a very successful Conference and pleasant stay in Banja Luka.

Chair of the Organization Committee

Marijana Kapovic Solomun

Predgovor

Dragi učesnici i prijatelji,

Međunarodna naučna konferencija „Šumarska nauka za održivi razvoj FORS²D – Perspektive šumarstva i povezanih sektora kao pokretača održivog razvoja u post-kovid eri – FORS²D" se održava u Banjoj Luci povodom značajnog jubileja (30 godina) Šumarskog fakulteta Univerziteta u banjoj Luci i 30 godina JPŠ "Šume Republike Srpske" a.d. Sokolac, u saradnji sa FAO (Organizacija Ujedinjenih nacija za hranu i poljoprivredu). Imajući u vidu globalne promjene kojima se suočavamo, značaj šuma mora biti posebno istaknut. Opstanak čovječanstva zavisi od šuma od vazduha koji udišemo do drveta koje koristimo kao materijal, ali bez obrazovanja i naučnog istraživanja ne možemo obećati održivi razvoj ili održivo šumarstvo. Pored osnovnih funkcija šuma potrebnih čoveku, šume takođe nude ublažavanje klimatskih promjena, zaštitu riječnih slivova, sprječavanje erozije zemljišta i bujičnih poplava sa kojima se često suočavamo poslednjih decenija. Nažalost, uprkos činjenici da zavisimo od šumskih ekosistema, mi i dalje dozvoljavamo da one nestaju.

Ova Konferencija će pružiti priliku učesnicima da se pozabave važnim pitanjima vezano za šumarstvo, razmijene novija istraživanja, znanja i iskustva u šumarstvu i srodnim oblastima, da uspostave funkcionalnu međunarodnu saradnju među institucijama, da unaprijede saradnju šumarske nauke i struke i konačno da istaknu šumarstvo kao važan sektor za ljudsko blagostanje na lokalnom, nacionalnom i globalnom nivou.

Konferencija je organizovana u devet sesija na različite teme. Učesnicima će se obratiti pet eminentnih plenarnih predavača, 64 usmenih izlaganja i 64 poster priloga, sa više preko 120 učesnika. Kako je najavljeno, recenzirani i prihvaćeni radovi biće objavljeni u Glasniku Šumarskog fakulteta Univerziteta u Banjoj Luci (http://glasnik.sf.unibl.org).

Želimo Vam uspješnu Konferenciju i ugodan boravak u Banja Luci.

Predsjednica Organizacionog odbora

Marijana Kapović Solomun

THEMATIC AREAS

1. Forest and sustainable development in light of climate change
2. Nature-based solutions
3. Let's green, be seen
4. A modern and competitive forestry sector
5. Innovative value chains and sociological aspects in forestry and related sectors

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SOIL CHARACTERISTICS AS CRITERIA FOR "SMARTNESS" FOR THE EUROPEAN MOUNTAIN FORESTS

Tomislav Tosti[1], Snežana Štrbac[2], Sanja Stojadinović[2], Nikola Živanović[3], Vukašin Rončević[3], Milica Kašanin-Grubin[2], Gorica Veselinović[2]

[1] Faculty of Chemistry, University of Belgrade, 11000 Belgrade
[2] Institute of Chemistry, Technology, and Metallurgy, University of Belgrade, 11000 Belgrade, Serbia

Corresponding author e-mail: tosti@chem.bg.ac.rs

ABSTRACT

Climate-Smart Forestry in mountain regions is an approach that can help to realize potential of the forest sector to contribute to climate change mitigation and to identify new principles and measures to reap this potential. These new measures and criteria include identification of key soil characteristics of beech forests in Europe. Total of 80 soil samples from 15 soil profiles were collected from beech forests of Spain, Czech Republic, Slovakia, Germany, Poland, Romania, Serbia, Italy, Bosnia and Herzegovina and Slovenia. Methodology used for soil analyses: electrical conductivity (EC) and pH (measured by portable meters), content of organic carbon (Corg – elemental analyser), grain size distribution (pipet analysis), content of major and minor minerals determined by XRF and ICP-OEC. Also concentrations of anions were determined by ion-chromatogarphy. The average content of organic carbon in tested soils is 2.4%. The highest concentrations are found in soils on limestones than on granite rocks and lowest concentrations on soils developed on sandstones. Concentrations of carbonate and sulphate anions are also highest in limestone soils, while phosphate and nitrate ions do not show variation with bedrock type. From the obtained results it can be concluded that the bedrock has strong influence on soil properties. The obtained differences are reflected in the depth of soil profiles, structure of aggregates and physico-chemical composition. The results of this study will help in the definition of climate-smart forestry and identification of "smartness" criteria for the European beech forests.

Key words: climate-smart forestry; soil quality; concentration of anions