



# **BOOK OF ABSTRACTS**

**SERBIAN-CHINESE FORESTRY FORUM**

## **FORESTS FOR THE FUTURE: CHALLENGES, OPPORTUNITIES AND INTEGRATED APPROACHES**



**BELGRADE, 2025**



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## PREFACE

The University of Belgrade – Faculty of Forestry, in cooperation with the College of Forestry and Biotechnology of Zhejiang A&F University, organised the scientific conference Serbian–Chinese Forestry Forum “Forests of the Future – Challenges, Opportunities and Integrated Approaches.” Thanks to the initiative of colleagues from our partner institution, the national conference gained an important international dimension.

Collaboration between our faculties has so far taken place primarily through the mobility of master’s students from China, who attend one semester of the master’s programme Forestry and Natural Resources Management, in English, at the University of Belgrade – Faculty of Forestry. The visit of the delegation from Zhejiang raised new questions and opportunities for reciprocal student exchange, as well as for joint participation in international projects.

Numerous issues related to sustainable forest ecosystem management, biodiversity conservation, and the restoration of degraded habitats under climate change represent shared challenges for forestry scientists worldwide. Modern forestry connects tradition with new knowledge and technologies – from sustainable forest management and the protection of soil and water resources to the development of renewable materials and the creation of green spaces that enhance quality of life.

The Forum provided a platform for the exchange of knowledge and ideas among students, teachers, researchers, and professionals from various forestry-related sectors. Its goal was to strengthen academic cooperation, stimulate innovation, and promote the development of green, sustainable technologies, with special emphasis on students and young researchers.

With more than 220 participants and 71 submitted abstracts presenting research results and project activities, the content of the Forum was organised into five thematic sections:

1. The State and Challenges of Forestry in Serbia and China
2. New and Green Technologies and Knowledge in Forestry, Wood Technology, Landscape Architecture and Horticulture, and Ecological Engineering in the Protection of Soil and Water Resources
3. Responses and Adaptation of Trees and Forests to Environmental Stress
4. Forests and Human Well-Being (Interdisciplinary Perspectives on Ecological, Economic, and Social Dimensions)
5. The Role of Young Researchers and Innovation in the Future of Forestry (Student Projects, Start-up Ideas, and International Cooperation)

The Organising Committee will publish the full papers, after peer review, in a special issue of the Bulletin of the Faculty of Forestry. The Book of Abstracts will be available online, along with other activities carried out during the Forum. The programme was enriched by an excursion to the Bojčinska Forest, where participants were introduced to the management system of floodplain pedunculate oak forests (*Quercus robur* L.) and established agroforestry systems.

Finally, we wish to express our sincere gratitude to the College of Forestry and Biotechnology of Zhejiang A&F University for their support and cooperation in organising the Forum, as well as to everyone who contributed to preparing and publishing the Book of Abstracts.

Chair of the Organising Committee  
Prof. Snežana Belanović Simić, D.Sc.

## **TOPIC 1**

### ***The State and Challenges of Forestry in Serbia and China***

## ASSESSMENT OF FOREST CHANGE AND MINING EXPANSION USING HIGH-RESOLUTION LAND COVER DATA: THE CASE OF SERBIA

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### ABSTRACT

Identifying changes in forest cover is essential for tackling major forestry challenges—enabling effective biodiversity conservation, enhancing ecosystem protection, and understanding land-use pressures driven by human activities such as mining.

This study evaluates long-term changes in forest cover in Serbia by using CORINE Land Cover (CLC) datasets with a spatial resolution of 100 m for the years 2000, 2006, 2012, and 2018. Forest dynamics were quantified using the Annual Forest Area Change Rate (AFACR), while changes in mining areas were assessed through the Annual Mining Expansion Rate (AMER). In addition, the study examines the spatial overlap between forest loss and the expansion of mining sites to determine the contribution of mining to deforestation.

The results indicate a predominantly positive AFACR in the periods 2000–2006 (0.17 % yr<sup>-1</sup>) and 2006–2012 (0.07 % yr<sup>-1</sup>), followed by a slight decline in 2012–2018 (–0.02 % yr<sup>-1</sup>). Overall, forest area increased modestly between 2000 and 2018, with an average AFACR of 0.07 % yr<sup>-1</sup>. In contrast, mining areas expanded substantially, with AMER values of 2.06 % yr<sup>-1</sup> (2000–2006), 2.54 % yr<sup>-1</sup> (2006–2012), and 0.24 % yr<sup>-1</sup> (2012–2018), resulting in a long-term AMER of 1.61 % yr<sup>-1</sup> for 2000–2018.

A total of 92,512 ha of forest was lost between 2000 and 2018. However, only 574 ha of this loss overlapped with newly established or expanded mining sites, indicating that mining accounted for approximately 0.62% of the national forest loss during the study period. These mine-induced forest clearings were exclusively detected within the Kolubara open-pit mine. These findings highlight that, although mining areas expanded rapidly, their direct contribution to deforestation at the national scale remained limited.

**Keywords:** forest change, mining, land use, land cover, Serbia.

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