

UNIVERSITY OF BELGRADE
TECHNICAL FACULTY IN BOR



BOOK OF ABSTRACTS

8th INTERNATIONAL STUDENT
CONFERENCE ON TECHNICAL
SCIENCES



www.tfbor.bg.ac.rs



8th INTERNATIONAL
STUDENT CONFERENCE
on Technical Sciences

20-21 October,
Bor Lake, Serbia

Editor: Uroš Stamenković

Book of Abstracts,

8th International Student Conference on Technical Sciences ISC 2023

Editor:

Doc. dr Uroš Stamenković

University of Belgrade - Technical Faculty in Bor

Technical Editors:

Milan Nedeljković, dipl. ing.

Avram Kovačević, dipl. ing.

University of Belgrade - Technical Faculty in Bor

Publisher: *University of Belgrade - Technical Faculty in Bor*

For the publisher: *Dean, Prof. dr Dejan Tanikić*

Circulation: 50 copies

Year of publication: 2023

Printed by "GRAFIKA GALEB DOO" NIŠ, 2023

ISBN 978-86-6305-141-6

CIP - Каталогизacija у публикацији Народна библиотека Србије, Београд

622(048)

669(048)

66(048)

66.017/.018(048)

INTERNATIONAL Student Conference on Technical Sciences (8 ; 2023 ;
Borsko jezero)

Book of abstracts / 8th International Student Conference on Technical
Sciences ISC 2023, 20-21 October, Bor Lake, Serbia ; [organized by University
of Belgrade, Technical Faculty in Bor] ; editor Uroš Stamenković. - Bor :
University of Belgrade, Technical Faculty, 2023 (Niš : Grafika Galeb). - VII, 51
str. ; 24 cm

Tiraž 50. - Bibliografija uz većinu apstrakata.

ISBN 978-86-6305-141-6

a) Рударство -- Апстракти b) Металургија -- Апстракти v) Хемијска
технологија -- Апстракти g) Технички материјали -- Апстракти

COBISS.SR-ID 126594825

**8th International Student Conference on Technical Science,
ISC 2023.**

Is organized by

UNIVERSITY OF BELGRADE, TECHNICAL FACULTY IN BOR

and co-organized by

**University of Zenica, Faculty of engineering and natural sciences,
Zenica, Bosnia and Herzegovina**

**University in Priština, Faculty of Technical Science, Kosovska
Mitrovica,
Serbia;**

**University of Montenegro, Faculty of Metallurgy and Technology,
Podgorica, Montenegro;**

**University of Tuzla, Faculty of Technology, Tuzla, Bosnia and
Herzegovina;**

**University of Chemical Technology and Metallurgy, Faculty of
Metallurgy and Material Science, Sofia, Bulgaria;**

TABLE OF CONTENTS

1.	<i>Invited lecture: Yuhui Zhang, Shuhong Liu, Yuling Liu; Mentor: Yong Du (China)</i> MICROSTRUCTURAL SIMULATION OF AGEING PRECIPITATION BASED ON THE DIFFUSION STUDY OF THE HCP α_3 PHASE IN Mg-Al-Sn ALLOYS	1
2.	<i>Student: Marina Marković; Mentor: Milan Gorgievski (Serbia)</i> REMOVAL OF COPPER IONS FROM AQUEOUS SOLUTIONS USING ONION PEELS AS AN ADSORBENT	2
3.	<i>Students: Nizama Baručija, Armin Čaušević, Merjem Delibašić; Mentor: Hasan Avdušinović (Bosnia and Herzegovina)</i> INFLUENCE OF GRAPHITE MORPHOLOGY ON THERMAL CONDUCTIVITY	3
4.	<i>Student: Alexandr Chesnyak; Mentor: Tamara Tikhomirova (Russia)</i> WAYS TO SOLVE ALTERNATIVE ENERGY SOURCES	4
5.	<i>Student: Nikolay Palienko; Mentor: Tamara Tikhomirova (Russia)</i> DEVELOPMENT OF GEOTHERMAL ENERGY IN THE WORLD	7
6.	<i>Student: Andrey Slyunkin; Mentor: Tamara Tikhomirova (Russia)</i> THE USE OF BIOENERGY RESOURCES IN THE PRODUCTION OF ELECTRICITY	10
7.	<i>Students: Alida Kusić, Ilma Bošnjak; Mentor: Miliša Todorović (Bosnia and Herzegovina)</i> SAFETY AND HEALTH IN COKING PLANTS THROUGH THE APPLICATION OF ENGINEERING MEASURES	13
8.	<i>Student: Aleksandra Radić; Mentor: Danijela Voza (Serbia)</i> METHODS FOR PRIORITISATION OF SUSTAINABLE DEVELOPMENT GOALS (SDGS) - AN OVERVIEW	14
9.	<i>Student: Marija Kovač; Mentor: Snežana Vučetić (Serbia)</i> NON-DESTRUCTIVE TESTING OF INORGANIC MATERIALS AS DECISION TOOL IN CULTURAL HERITAGE	17
10.	<i>Student: Edita Bjelić; Mentors: Mersiha Suljkanović, Jasmin Suljagić (Bosnia and Herzegovina)</i> HYDROPHOBIC DEEP EUTECTIC SOLVENTS: PROMISING GREEN MEDIA FOR BIOMASS TREATMENT	18
11.	<i>Student: Miloš Vuleta; Mentor: Jasmina Petrović (Serbia)</i> CONSIDERATION OF THE INFLUENCE OF STIR CASTING PROCESS PARAMETERS ON OBTAINING MMC CASTINGS	19
12.	<i>Students: Nizama Baručija, Resul Čehajić, Mahir Dreco; Mentors: Almáida Gigović-Gekić, Amna Hodžić (Bosnia and Herzegovina)</i> INFLUENCE OF MIXING OF QUENCHING MEDIA ON MICROSTRUCTURE AND HARDNESS OF STEEL 23MnB4	20
13.	<i>Students: Mahir Dreco, Armin Čaušević; Mentors: Branka Muminović, Behar Alić, Almáida Gigović-Gekić (Bosnia and Herzegovina)</i> TESTING OF WELDED JOINTS WITH LIQUID PENETRANTS	21
14.	<i>Students: Vedran Milanković, Tamara Tasić; Mentor: Tamara Lazarević-Pašti (Serbia)</i> REMOVAL OF CHLORPYRIFOS AND MALATHION USING SPENT COFFEE GROUNDS – ISOTHERM STUDY	22

METHODS FOR PRIORITISATION OF SUSTAINABLE DEVELOPMENT GOALS (SDGs) - AN OVERVIEW

Student: Aleksandra Radić

Mentor: dr Danijela Voza

University of Belgrade, Technical Faculty in Bor, Bor, Serbia

Abstract

Sustainable Development Goals (SDGs) represent a contemporary approach for realizing the vision of sustainable development. This is a series of 17 targets more closely defined through 169 targets and a large number of indicators. These goals aim to achieve sustainability in the field of at least three components, known as three pillars, precisely ecological, economic and social components.

According to the United Nations, the SDGs are indivisible and do not imply prioritisation that would take greater importance of one goal over another. And yet, the question arises whether the SDGs will be globally achieved by 2030 according to the previously defined target values. The COVID-19 pandemic, instability caused by war conflicts, as well as the consequences of these unpleasant events, such as damage to the world economy and trade, contributed to this. SDGs prioritisation is needed after all of these happenings.

The aim of this paper is to present an overview of the techniques used to prioritize SDG targets at global, national or corporate level. After the introductory considerations, a literature review follows in which is explained from which the need for prioritizing the goals of sustainable development arises. The third part refers to the overview of the previous results of the application of SDGs prioritisation methods and techniques. For these purposes, the analysis of the content of scientific works and partly bibliometric analysis were used. The papers were selected from the Scopus, Science Direct and Google Scholar databases based on the keyword SDGs prioritisation. After collecting the relevant literature, the papers were analyzed in terms of context (corporate, national, regional or global), the methodology used and the type of methodology (namely, whether the methodology used was in the field of well-known existing methodology or was it a methodology developed by the authors). In the discussion part, basic observations, limiting factors of previous research as well as proposals for overcoming them through future research are presented. Finally, concluding remarks were made.

Keywords: *Sustainable Development Goals, Prioritisation, Overview*

REFERENCES

- [1] J. Adhikari, J. Timsina, S.R. Khadka, Y. Ghale, H. Ojha, COVID-19 impacts on agriculture and food systems in Nepal: Implications for SDGs, *Agricultural Systems*, 186 (2021), 102990.
- [2] C. Allen, G. Metternicht, T. Wiedmann, Prioritising SDG targets: Assessing baselines, gaps and interlinkages, *Sustainability Science*, 14 (2019), 421-438.
- [3] M. Ameli, Z.S. Esfandabadi, S. Sadeghi, M. Ranjbari, M.C. Zanetti, COVID-19 and Sustainable Development Goals (SDGs): Scenario analysis through fuzzy cognitive map modeling, *Gondwana Research*, 114 (2023), 138-155.
- [4] A. Asadikia, A. Rajabifard, M. Kalantari, Systematic prioritisation of SDGs: Machine learning approach, *World Development*, 140 (2021), 105269.

- [5] L. Coscieme, L.F. Mortensen, S. Anderson, J. Ward, I. Donohue, P.C. Sutton, Going beyond Gross Domestic Product as an indicator to bring coherence to the Sustainable Development Goals, *Journal of Cleaner Production*, 248 (2020), 119232.
- [6] R. Costa, T. Menichini, G. Salerno, Do SDGs really matter for business? Using GRI sustainability reporting to answer the question, *European Journal of Sustainable Development*, 11(1) (2022), 113-113.
- [7] R. Costanza, L. Daly, L. Fioramonti, E. Giovannini, I. Kubiszewski, L.F. Mortensen, R. Wilkinson, Modelling and measuring sustainable wellbeing in connection with the UN Sustainable Development Goals, *Ecological economics*, 130 (2016), 350-355.
- [8] J.P. Da Costa, A.L. Silva, D. Barcelò, T. Rocha-Santos, A. Duarte, Threats to sustainability in face of post-pandemic scenarios and the war in Ukraine, *Science of The Total Environment*, 892 (2023), 164509.
- [9] I. D'Adamo, M. Gastaldi, P. Morone, Economic sustainable development goals: Assessments and perspectives in Europe, *Journal of Cleaner Production*, 354 (2022), 131730.
- [10] R.M. Elavarasan, R. Pugazhendhi, T. Jamal, J. Dyduch, M.T. Arif, N.M. Kumar, M. Nadarajah, Envisioning the UN Sustainable Development Goals (SDGs) through the lens of energy sustainability (SDG 7) in the post-COVID-19 world, *Applied Energy*, 292 (2021), 116665.
- [11] F. Fagbemi, COVID-19 and sustainable development goals (SDGs): An appraisal of the emanating effects in Nigeria, *Research in Globalization*, 3 (2021), 100047.
- [12] O. Forestier, R.E. Kim, Cherry-picking the Sustainable Development Goals: Goal prioritization by national governments and implications for global governance, *Sustainable Development*, 28(5) (2020), 1269-1278.
- [13] M. Grzebyk, M. Stec, P. Hejdukova, Implementation of sustainable development goal 8 in European Union countries—A measurement concept and a multivariate comparative analysis, *Sustainable Development*, 31(4) (2023), 2758-2769.
- [14] I. Heras-Saizarbitoria, L. Urbieto, O. Boiral, Organizations' engagement with sustainable development goals: From cherry-picking to SDG-washing?, *Corporate Social Responsibility and Environmental Management*, 29(2) (2022), 316-328.
- [15] Y. Huan, L. Wang, M. Burgman, H. Li, Y. Yu, J. Zhang, T. Liang, A multi-perspective composite assessment framework for prioritizing targets of sustainable development goals, *Sustainable Development*, 30(5) (2022), 833-847.
- [16] A. Karaşan, C. Kahraman, A novel interval-valued neutrosophic EDAS method: prioritization of the United Nations national sustainable development goal, *Soft Computing*, 22 (2018), 4891-4906.
- [17] K. Koasidis, T. Koutsellis, G. Xexakis, A. Nikas, H. Doukas, Understanding expectations from and capabilities of climate-economy models for measuring the impact of crises on sustainability, *Journal of Cleaner Production*, 414 (2023), 137585.
- [18] O. Kostoska, L. Kocarev, A novel ICT framework for sustainable development goals, *Sustainability*, 11(7) (2019), 1961.
- [19] H. Kreinin, E. Aigner, From “Decent work and economic growth” to “Sustainable work and economic degrowth”: a new framework for SDG 8, *Empirica*, 49(2) (2022), 281-311.
- [20] O. Lavrinenko, S. Ignatjeva, A. Ohotina, O. Rybalkin, D. Lazdans, The role of green economy in sustainable development (case study: the EU states), *Entrepreneurship and sustainability issues*, 6 (2019), 1113-1126.
- [21] S. Lodhia, A. Kaur, S.C. Kuruppu, The disclosure of sustainable development goals (SDGs) by the top 50 Australian companies: substantive or symbolic legitimation?, *Meditari Accountancy Research*, Online first (2022). <https://doi.org/10.1108/MEDAR-05-2021-1297>
- [22] F. Martins, A. Lima, L. Diep, L. Cezarino, L. Liboni, R. Tostes, P. Parikh, COVID-19, SDGs and public health systems: Linkages in Brazil, *Health Policy OPEN*, 4 (2023), 100090.
- [23] M. Shupler, J. Mwitari, A. Gohole, R.A. de Cuevas, E. Puzzolo, I. Čukić, D. Pope, COVID-19 impacts on household energy & food security in a Kenyan informal settlement: The need for integrated approaches to the SDGs, *Renewable and Sustainable Energy Reviews*, 144 (2021), 111018.

- [24] E. Suárez-Serrano, P.L. González-Torre, E. Covián-Regales, A business prioritisation of the sustainable development goals indicators: Building bridges between academics and practitioners in the Spanish case, *Environmental Development*, 46 (2023), 100827.
- [25] R.B. Swain, S. Ranganathan, Modeling interlinkages between sustainable development goals using network analysis, *World Development*, 138 (2021), 105136.
- [26] Q. Wang, R. Huang, The impact of COVID-19 pandemic on sustainable development goals—a survey, *Environmental Research*, 202 (2021), 111637.



www.tfbor.bg.ac.rs



**8th INTERNATIONAL
STUDENT CONFERENCE
on Technical Sciences**

**20-21 October, Bor Lake,
Serbia**

ISBN 978-86-6305-141-6