

ISBN 978-9940-611-11-8



**COAST**  
INTERNATIONAL CONFERENCE  
ON ADVANCES IN SCIENCE  
AND TECHNOLOGY

V INTERNATIONAL CONFERENCE ON  
ADVANCES IN SCIENCE AND TECHNOLOGY

# BOOK OF ABSTRACTS

---

FACULTY OF MANAGEMENT HERCEG NOVI

HERCEG NOVI, MONTENEGRO

09 JUNE - 13 JUNE 2026



FAKULTET ZA MENADŽMENT  
HERCEG NOVI

V INTERNATIONAL CONFERENCE ON  
ADVANCES IN SCIENCE AND TECHNOLOGY

# BOOK OF ABSTRACTS

HERCEG NOVI, 09 JUNE - 13 JUNE 2026



V INTERNATIONAL CONFERENCE ON ADVANCES IN SCIENCE AND TECHNOLOGY  
COAST 2026

## Organizer



## Co-organizers



Univerzitet u Nišu  
GRAĐEVINSKO ARHITEKTONSKI FAKULTET



Univerza v Mariboru

Fakulteta za turizem



Univerzitet Union



ST. PETERSBURG STATE  
UNIVERSITY OF FILM AND TELEVISION



fpep  
BAR



PMC  
EDUCONS  
Fakultet za projektni  
i inovacioni  
menadžment



VUB  
VA ŠKOLA ZA VEŠTINS



AUE  
American University of Europe



Висока школа за  
пословну економију  
и предузетништво



VISOKA ŠKOLA  
MODERNOG BIZNISA

## Partners

ProStud/o.me



# BOOK OF ABSTRACTS

**Publisher:**

Faculty of Management Herceg Novi

**Editorial board:**

Editor-in-Chief: Djordje Jovanović, PhD

Editors: Irena Petrušić, PhD, Jovana Jovanović, PhD, Ivan Stevović, PhD

**Design and Computer processing:**

Zvonko Perušina, BSc

**Print:**

"Copy Studio" d.o.o. Nikšić

**Circulation:**

150 copies

CIP - Каталогизacija y publikaciji  
Национална библиотека Црне Горе, Цетиње

INTERNATIONAL conference on advances in science and technology (V ; 2026 ; Herceg Novi)  
Book of Abstracts / International conference on on advances in science and technology, Herceg Novi, 9 June - 13 June, 2026 : Fakultet za menadžment, 2026 (Herceg Novi). - 182 str. ; [editorial board Djordje Jovanović, Irena Petrusić, Jovana Jovanović, Ivan Stevović].

ISBN 978-9940-611-11-8  
COBISS.CG-ID 38380036

# BOOK OF ABSTRACTS

## Organizing Committee:

**General Chairs of the Committee:** Djordje Jovanović, PhD (**MNE**), Olivera Jovanović, PhD (**MNE**)

**Chairs of the Committee:** Irena Petrušić, PhD (**MNE**), Jovana Jovanović, PhD (**MNE**)

**Coordinators:** Milena Djukanović, PhD (**MNE**); Nikša Grgurević, PhD (**MNE**); Mihailo Jovanović, PhD (**MNE**)

Bulatović Dragan, PhD (**MNE**); Djurić Dušan, PhD (**SRB**); Kartseva Aleksandra, PhD (**RUS**); Klarić Dragan, PhD (**MNE**); Koprivica Suzana, PhD (**SRB**); Koščak Marko, PhD (**SVN**); Milošević Danijela, PhD (**SRB**); Dr Stevović Ivan (**SRB**); Deretić Žaklina, MSc (**MNE**); Milanović Duško, MSc (**MNE**); Koprivica Stefan, MSc (**SRB**); Koprivica Milica, MSc (**SRB**); Savić Dragana, MSc (**MNE**); Savić Ivana, MSc (**MNE**); Dragović Andrea, BSc (**MNE**); Perušina Zvonko, BSc (**MNE**)

## Scientific and Program Committee

Abramović Nikola, PhD (**MNE**), Faculty of Business Economics and Law, Bar,

Aničić Jugoslav, PhD (**SRB**), University "Union - Nikola Tesla", Belgrade

Biočanin Vladimir, PhD (**SRB**), Faculty of Medical Sciences, University of Kragujevac

Blagojević Marija, PhD (**SRB**), Faculty of Technical Sciences, University of Kragujevac, Čačak

Božilović Zvonimir, PhD (**SRB**), University "Union - Nikola Tesla", Belgrade

Brumen Boštjan, PhD (**SVN**), Faculty of Tourism, University of Maribor

Bulatović Dragan, PhD (**MNE**), Faculty of Management, Herceg Novi

Cogoljević Vladan, PhD (**SRB**), Faculty of Business Economics and Entrepreneurship

Dimitrova Vesna, PhD (**MKD**), Cyril and Methodius University, Skopje

Djoković Goran, PhD (**SRB**), Modern Business School, Belgrade, Serbia

Djukanović Milena, PhD (**MNE**), Faculty of Electrical Engineering, University of Montenegro, Podgorica

Djurašević Silvana, PhD (**MNE**), Faculty of Management, Herceg Novi

Djurić Djuro, PhD (**MNE**), Faculty of Business Economics and Law, Bar

Djurić Dušan, PhD (**SRB**), Faculty of Medical Sciences, University of Kragujevac

Djurić Sonja, PhD (**ESP**), University of Valencia, Spain

Djurović Sandra, PhD (**MNE**), Faculty of Business Economics and Law, Bar

Dong Wang, PhD (**CHN**), Mechanical Engineering at Shanghai, Jiao Tong University

Duplákóvá Darina, PhD (**SVK**), Technical University of Kosice, Faculty of Manufacturing

Technologies with a seat in Prešov, Institute of Advanced Technologies, Prešov, Slovakia

Grgurević Nikša, PhD (**MNE**), Faculty of Management, Herceg Novi

Holzner Johannes, PhD (**DEU**), Department of Agriculture, Food and Nutrition, University of Applied Sciences Weihenstephan-Triesdorf, Weidenbach

Jaganjac Jamila, PhD (**BIH**), Faculty of Business Economics, University Vitez, Travnik

Jakopin Edvard, PhD (**SRB**), University "Union - Nikola Tesla", Belgrade

Jovanović Jovana, PhD (**MNE**), Faculty of Management, Herceg Novi

# BOOK OF ABSTRACTS

Jovanović Mihailo, PhD **(MNE)**, Faculty of Management, Herceg Novi  
Jovanović Djordje, PhD **(MNE)**, Faculty of Management, Herceg Novi  
Jovanović Olivera, PhD **(MNE)**, Faculty of Mechanical Engineering, University of Montenegro, Podgorica  
Jovković Ljiljana, PhD **(SRB)**, MB University, Belgrade  
Jurakić Marko, PhD **(HRV)**, Vimal Academy for Human Resources Development, Zagreb  
Karabegović Edina, PhD **(BIH)**, Technical Faculty of the University of Bihać  
Karabegović Isak, PhD **(BIH)** Academician of Academy of Sciences and Arts of BIH  
Kartseva Aleksandra, PhD **(RUS)**, University at the Inter-Parliamentary Assembly EurAsEC, St. Petersburg  
Klarić Dragan, PhD **(MNE)**, Faculty of Management, Herceg Novi  
Koščak Marko, PhD **(SVN)**, Faculty of Tourism, University of Maribor  
Kostić Vasilije, PhD **(MNE)**, Faculty of Management, Herceg Novi  
Koprivica Suzana, PhD **(SRB)**, University "Union - Nikola Tesla", Belgrade  
Liehuang Zhu, PhD **(CHN)**, Beijing Insitute of Technology, Beijing  
Lukić Nikolić Jelena **(SRB)**, Modern Business School, Belgrade, Serbia  
Maksimović Sekulić Nina, PhD **(SRB)**, Modern Business School, Belgrade, Serbia  
Mamula Nikolić Tatjana, PhD **(SRB)**, Metropolitan University, Belgrade, Serbia  
Markuz Ana, PhD **(HRV)**, Libertas International University, Zagreb, Croatia  
Martinović Srdja, PhD **(MNE)**, Faculty of Law, University of Montenegro, Podgorica  
Mašović Azemina, PhD **(MKD)**, Integrated Business Faculty, Skopje  
Mihajlović Milan, PhD **(SRB)**, Modern Business School, Belgrade, Serbia  
Milošević Danijela, PhD **(SRB)**, Faculty of Technical Sciences Čačak, University of Kragujevac  
Mirović Dejan, PhD **(MNE)**, Faculty of Business Economics and Law, Bar  
Nikolić Ristić Dragana, PhD **(SRB)**, Metropolitan University, Belgrade, Serbia  
Novičević Rajko, PhD **(MNE)**, Faculty of Business Economics and Law, Bar  
Ostojić Bojana, PhD **(SRB)**, Faculty of Project and Innovation Management, Belgrade  
Pavlović Vladan, PhD **(SRB)**, Faculty of Economics, University of Pristina  
Pepić Siniša, PhD **(GBR)**, Apsley Business School, London  
Petrušić Irena, PhD **(MNE)**, Faculty of Management Herceg Novi  
Pločo Maja, PhD **(BIH)**, Faculty of Law, University Vitez, Travnik  
Regazzoni Francesco, PhD **(CHE)**, Università della Svizzera italiana, Lugano, Switzerland  
Rusakov Arkady Yurievich, PhD **(RUS)**, Doctor of Philosophy, Professor, Department of Project Activities in Cinematography and Television, Saint Petersburg State Institute of Film and Television, Saint-Petersburg  
Sadlak Jan, PhD **(BEL)**, IREG Observatory on Academic Ranking and Excellence, Brussels  
Sarić Branko, PhD **(SRB)**, Faculty of Technical Sciences, University of Kragujevac  
Savić Gajić Ivana, PhD **(SRB)**, Faculty of Technology, University of Nis  
Stevović Ivan, PhD **(SRB)**, Innovation Center of the Faculty of Mechanical Engineering, University of Belgrade  
Trajković Slaviša, PhD **(SRB)**, Faculty of Civil Engineering and Architecture, University of Niš

# BOOK OF ABSTRACTS

Virijević Jovanović Saša **(SRB)**, Modern Business School, Belgrade, Serbia

Vukasović Vlado, PhD **(MNE)**, Faculty of Management, Herceg Novi

Vuković Adrijana, PhD **(SRB)**, MB University, Belgrade, Serbia

Xiaoqin Sun, PhD **(CHN)**, Changsha University of Science and Technology, Changsha

NOTE:

*The authors have full responsibility for the originality and content of their own papers.*

## **CONTENTS**

<b>Plenary Lecture</b> .....	<b>1</b>
STRUCTURAL DESIGN, MULTIMATERIAL 3D PRINTING AND MEDICAL APPLICATIONS OF SOFT ROBOTS .....	2
Dong Wang	
FROM COMPUTATIONAL THINKING IN EARLY CHILDHOOD TO THE USE OF AI.....	3
Tomaž Bratina	
<b>Engineering, technology and materials</b> .....	<b>4</b>
COMPUTATIONAL OPTIMIZATION TECHNIQUES FOR CONSTRUCTION SITE LAYOUT PLANNING .....	5
Nenad Stojković, Biljana Matejević Nikolić, Nikola Velimirović, Lazar Živković, Aleksandar Đorđević	
SELECTION OF CULTIVATION TECHNIQUE FOR FUNGAL ENZYMES PRODUCTION ON SOYBEAN HULLS .....	6
Marko Zeljko, Zorana Trivunović, Ranko Romanić, Jelena Dodić	
CHALLENGES AND OPPORTUNITIES IN MANNOSYLERYTHRITOL LIPIDS PRODUCTION FROM AGRO- INDUSTRIAL EFFLUENTS .....	7
Marko Zeljko, Zorana Trivunović, Branka Pilić, Jelena Dodić	
STAKEHOLDER AWARENESS IN INDUSTRIAL SYMBIOSIS: A LITERATURE AND BIBLIOMETRIC REVIEW .....	8
Lidija Krstić, Anđelka Stojanović	
INFLUENCE OF TURNING PARAMETERS ON CUTTING FORCES AND CHIP FORMATION WHEN USING A RHOMBIC CUTTING INSERT .....	9
Obrad Anicic, Goran Nestorović	
INFLUENCE OF TURNING PARAMETERS ON CUTTING FORCES, CHIP FORMATION, AND SURFACE ROUGHNESS USING A TRIANGULAR CUTTING INSERT .....	10

Goran Nestorović, Obrad Anicic	
AI-ASSISTED DESIGN OF STEEL DAMPER LAYOUTS .....	11
Timur Curić, Demir Vatić, Ismail Nurković	
4D PRINTING: PROCESSES, TECHNOLOGIES, AND APPLICATIONS .....	12
Milan Misic, Strahinja Djurovic	
HIGH-PRECISION LIGHTNING DETECTION SYSTEMS USING ELECTROMAGNETIC WAVE PROPAGATION .....	13
Marko Rosić, Dimitrije Rozgić	
DEVELOPMENT OF A REMOTE STIMULATION MODULE FOR HUNTING DOG TRACKING SYSTEMS .....	14
Slavimir Stošović, Dejan Stevanović, Miona Andrejević Stošović	
A NOVEL FRAMEWORK FOR ADVANCING MAINTENANCE MODELS OF HYDRAULIC SYSTEMS IN HYDROPOWER PLANTS .....	15
Biljana Milutinović, Petar Đekić, Goran Mišić	
3D FOOD PRINTING: FROM DESIGN TO PLATE .....	16
Jovana Jovanović, Milena Terzić, Milena Đukanović, Mihailo Jovanović, Jasna Pejović	
OBJECT SORTING USING MACHINE VISION AND INDUSTRIAL ROBOT .....	17
Vojislav Vujičić, Lazar Štulić, Ivan Milićević, Nedeljko Dučić	
EXPERIMENTAL AND STATISTICAL ANALYSIS OF STATIC BREAKDOWN VOLTAGE AND RESPONSE TIME OF GAS-FILLED SURGE ARRESTERS WITH DIFFERENT OPERATING VOLTAGES .....	18
Milica Danković, Ana Ćirić, Emilija Živanović	
ASSESSMENT OF TRAFFIC PERFORMANCE PARAMETERS AT A SIGNALIZED FOUR-WAY INTERSECTION IN THE CITY OF NIŠ .....	19

Stefan Mihajlovic, Andrija Petrovic, Jovan Misic, Nenad Ruskic	
HYDROGEN DAMAGE MECHANISMS IN LOW-CARBON STEELS: A REVIEW .....	20
Andrej Češnovar, Dafinka Stoevska-Gogovska	
EFFECT OF GAMMA IRRADIATION ON THE THERMAL PROPERTIES OF iPP–LDPE BLENDS FOR POLYOLEFIN WASTE RECYCLING.....	21
*Slavica Porobić-Katnić, Ognjen Todorović, Luka Golubović, Đurica Katnić, Ivana Perović, Marija Milenković, Milena Marinović-Cincović	
Toughness of Microalloyed Manganese Hot Rolled Steel Plates AS A function of DEFORMATION DEGREE AND VANADIUM AND NICKEL CONTENT – experimental and mathematic modelling results .....	22
Ruzica Manojlović, Andrej Češnovar, Dafinka Stoevska-Gogovska, Goran Rizov, Blagoj Rizov, Katerina Atanasova-Zdravevska	
OPTIMISATION OF GLUTEN-FREE VEGAN CRACKERS FROM ACORN FLOUR ( <i>Quercus rotundifolia</i> ) AND CHICKPEA FLOUR USING RESPONSE SURFACE METHODOLOGY .....	23
Jasmina Lukinac, Petra Konol, Petra Lončarić, Ana Šušak, Daliborka Koceva Komlenić, Marko Jukić	
CRITERIA FOR SUBCONTRACTOR SELECTION IN CONSTRUCTION INDUSTRY: LITERATURE REVIEW .....	24
Stefan Koprivica, Bogdan Lazić	
ANALYSIS OF THE INFLUENCE OF MATTE SPRAY APPLICATION ON THE ACCURACY OF 3D SCANNING OF GLOSSY ALUMINUM PARTS .....	25
Gordana Jović, Milica Janković, Miloš Stevanović, Milan Pavlović, Miroslav Mijajlović	
DESIGN AND MANUFACTURING OF A SUPPORTING STRUCTURE FOR AN AUTOMATED FRUIT AND VEGETABLE DEPALLETIZING MACHINE .....	26

Milan Nikolić

EXPERIMENTAL ANALYSIS OF DIMENSIONAL DEVIATIONS  
IN 3D SCANNED MODELS .....27

Miloš Stevanović, Gordana Jović, Milica Janković

THE IMPORTANCE OF METHODOLOGY FOR DETERMINING  
THE OPTIMAL NUMBER OF TAXI STANDS.....28

Jovan Mišić, Aleksandar Trifunović, Stefan Mihajlović, Katarina  
Stevanović i Stefan Stojanović

INVESTIGATION OF THE INFLUENCE OF VANADIUM ON THE  
MICROSTRUCTURAL AND MECHANICAL CHARACTERISTICS  
OF MICROALLOYED MANGANESE HOT ROLLED STEEL  
PLATES.....29

Ruzica Manojlović, Andrej Češnovar, Dafinka Stoevska-Gogovska,  
Goran Rizov, Blagoj Rizov, Katerina Atanasova-Zdravevska

***Biology, Physics, Chemistry, Mathematics* .....30**

FIELD APPLICATION OF *TRICHODERMA HARZIANUM* FOR  
MYCOTOXIN MITIGATION IN MAIZE PRODUCTION .....31

Ivana Mitrović, Sonja Tančić Živanov, Milena Terzić, Jelena Bajac,  
Bojan Mitrović

OPTIMISATION OF THE PRODUCTION OF EXTRACTS FROM  
THE PLANT SPECIES *ALCHEMILLA SUBCRENATA* BUSER BY  
MICROWAVE ASSISTED EXTRACTION .....32

Ivana Mitrović, Jelena Simić, Jelena Bajac, Tatjana Đorđević, Lidija  
Petrović, Gokhan Zengin, Milena Terzić

INVESTIGATION OF THE ANTIOXIDANT ACTIVITY OF  
*SALVIA VERTICILLATA* EXTRACT.....33

Sandra Jovičić Milić, Danijela Stojković, Dušica Simijonović, Edina  
Avdović, Maja Đukić, Svetlana Belošević, Zoran Marković

CHALLENGES ASSOCIATED WITH SUGAR CONTENT IN  
INSTANT OATMEAL PRODUCTS.....34

Gordana Jovanović, Dragica Đurđević-Milošević, Ana Vasić	
INNOVATIVE APPROACHES FOR EXTRACTION AND STABILIZATION OF POLYPHENOLS FROM BLACK LOCUST FLOWERS .....	35
Ivan Savić, Ivana Savić Gajić	
VALORIZATION OF ORANGE PEEL BY-PRODUCT: POLYPHENOLIC PROFILE AND BIOLOGICAL ACTIVITIES ....	36
Ivana Savić Gajić*, Ivan Savić, Jovana Vunduk	
ECOLOGICALLY ACCEPTABLE METHODS OF REMOVING MYCOTOXINS IN FOODSTUFFS.....	37
Ivana Jevtć, Jelena Đuričić Milanković, Dragana Ilić Udovičić, Kosana Popović	
COMPARATIVE NUMERICAL ANALYSIS OF DIFFERENT SOLID-STATE NUCLEAR TRACK DETECTORS RESPONSE INSIDE CYLINDRICAL DIFFUSION CHAMBER.....	38
Željko Cimbalević, Marko Milosević, Jelena Stajić, Biljana Nikić, Vladimir Marković	
NEMATODES AS BIOINDICATORS OF SOIL CONDITIONS .....	39
Violeta Oro, Rade Stanisavljevic, Vojka Babic, Natalija Kravic, Vesna Peric, Marijenka Tabakovic	
ELECTRONIC PROPERTIES OF TETRANITROTETRACENE DERIVATIVES: A DFT STUDY IN DIFFERENT SOLVENT ENVIRONMENTS .....	40
Jelena Mičev, Dušan Veljković, Gvozden tasić, Marija Ječmenica Dučić, Ivan Lazović, Ana Cumbo	
GREEN SYNTHESIS OF SILVER NANOPARTICLES AND THEIR EFFECTS ON WINTER WHEAT AND BARLEY VARIETIES UNDER LOW-TEMPERATURE CONDITIONS.....	41

Djordje D. Minić, Katarina G. Marković, Ana S. Kesić, Mirjana Z. Grujović, Stefan M. Marković, Aleksandra M. Torbica and Nevena H. Djukić

EFFECT OF SALVIA PRATENSIS AND LYTHRUM SALICARIA EXTRACTS ON INTERACTIONS WITH COPPER(II) AMINE COMPLEXES..... 42

Andrija Gigić, Ana Kesić, Dragana Stevanović, Jovana Bugarinović, Jovana Bogojeski

COLD-PRESSED FLAXSEED CAKE AS A SUSTAINABLE CARRIER FOR IMMOBILIZATION OF *LACTOBACILLUS RHAMNOSUS*..... 43

Tanja Krunic

INFLUENCE OF BIOPOLYMER COMPOSITION ON THE PROPERTIES OF HYDROGELS FOR PROBIOTIC ENCAPSULATION ..... 44

Tanja Krunic, Andrea Osmokrovic

DEVELOPMENT OF GLUTEN-FREE VEGAN BISCUITS BASED ON *Quercus pubescens* ACORN FLOUR AND CHICKPEA FLOUR ..... 45

Marko Jukić, Stela Katana, Petra Lončarić, Ana Šušak, Daliborka Koceva Komlenić, Jasmina Lukinac

APPLICATION OF ORTHOGONALITY ON THE SEMICIRCLE IN SIGNAL PROCESSING ..... 46

Marija Stanić, Tatjana Tomović Mladenović, Aleksandra Milosavljević

***Medical, Biomedical and Pharmaceutical Sciences..... 47***

COMPARATIVE PHARMACEUTICAL – TECHNOLOGICAL EVALUATION OF ALGINATE AND GELATIN MICROCAPSULES CONTAINING ROSEMARY ESSENTIAL OIL ..... 48

Marina Tomovic, Marija Popovic Milenkovic, Miljan Adamovic, Ana Adamovic

COMPARATIVE ANALYSIS OF GREEN SYNTHESIS OF SILVER, ZINC AND COPPER NANOPARTICLES USING PLANT EXTRACTS..... 49

Ana Kesić, Katarina Marković, Mirjana Grujović, Jelena Katanić Stanković

STRUCTURE-GUIDED DESIGN OF NOVEL GALANTAMINE DERIVATIVES AS POTENTIAL ACETYLCHOLINESTERASE INHIBITORS FOR ALZHEIMER’S DISEASE..... 50

Žiko Milanović, Kristina Milisavljević

INCREASED THE LEVEL OF DNA DAMAGE IN ENDOMETRIAL CANCER PATIENTS WITH DIABETES MELLITUS..... 51

Aleksandra Marković, Marija Živković Radojević, Filip Stašević, Olivera Milošević-Đorđević

PSYCHOLOGICAL DISTRESS, SLEEP DISTURBANCE AND DEPERSONALIZATION AMONG HEALTHCARE WORKERS WITH BURNOUT SYNDROME EMPLOYED AT THE INSTITUTE FOR EMERGENCY MEDICINE BELGRADE..... 52

Ivana Milivojcevic Bevc, Danijela Tasic-Uros, Bojana Stojanovic, Milica Dimitrijevic Stojanovic, Bojan Stojanovic

MANAGEMENT OF INTERNAL AND EXTERNAL CONTROLS IN LABORATORY WORK..... 53

Olivera Savić, Ivana Jagličić, Ivana Savić

THE IMPACT OF AGGRESSIVE HISTOLOGICAL TYPES ON SURVIVAL IN ENDOMETRIAL CANCER..... 54

Aleksandra Marković, Neda Milosavljević, Miloš Grujić, Marija Živković Radojević

INVESTIGATION OF *ARBUTUS UNEDO* AS A POTENTIAL  
THERAPEUTIC AGENT AGAINST PARKINSON’S DISEASE VIA  
MYELOPEROXIDASE INHIBITION ..... 55

Slavica Porobić Katnić, Luka Golubović, Đurica Katnić, Ognjen  
Todorović, Aleksandra A. Rakić, Tamara Lazarević Pašti, Milena  
Marinović Cincović

***Humanities: philosophy, philology, history, theology*..... 56**

THE RELEVANCE OF THE DEVELOPMENT OF SMALL  
PRIVATE MUSEUMS IN THE CULTURAL TOURISM SYSTEM 57

Kartseva Alexandra Alexandrovna

VISUAL ART IN THE DIGITAL AGE: STRATEGIES AND KEY  
DEVELOPMENT TRENDS. .... 58

A.Yu. Rusakov, V. E. Vasiliev, A. V. Basina

CONSTRUCTION GRAMMAR (CxG) IN ENGLISH FOR  
SPECIFIC PURPOSES TEXTBOOK: TENETS, APPLICATION,  
ADVANTAGES ..... 59

Aleksandar Vuletić

THE SIMILE IN FOLK EPIC POETRY: A SYNTACTIC-  
STYLISTICS ANALYSIS ..... 60

Milena Burić

THE BORROMEAN KNOT AND THE STRUCTURE OF  
MEANING: BETWEEN PSYCHOANALYSIS AND  
MATHEMATICAL TOPOLOGY..... 61

Maja Luković, Katarina Borisavljevic, Milena Jovanović-Kranjec,  
Olivera Stančić

***Economy, management, tourism and hospitality*..... 62**

DOES CORPORATE SOCIAL RESPONSIBILITY MITIGATE  
ECONOMIC SHOCKS? A COUNTRY-LEVEL PANEL DATA  
ANALYSIS IN THE CONTEXT OF MACROECONOMIC  
INSTABILITY..... 63

Jasmina Đurašković, Marina Gajić-Glamočlija, Saša Stevanović	
INSTITUTIONS MATTER: A PANEL ASSESSMENT OF INSTITUTIONAL TRUST AND MACROECONOMIC PERFORMANCE IN THE WESTERN BALKANS .....	64
Jasmina Đurašković, Dušan Đurašković, Suzana Balaban	
ERP SYSTEMS AS A TOOL FOR DIGITAL TRANSFORMATION AND INSTITUTIONAL ALIGNMENT WITH EUROPEAN UNION STANDARDS.....	65
Alem Kozar, Ivan M. Jurić, Miloš Milinković	
APPLICATION OF ARTIFICIAL INTELLIGENCE IN ENTREPRENEURSHIP: OVERVIEW OF MODERN APPROACHES AND CHALLENGES.....	66
Mira Vidaković, Tamara Jevtić, Jelena Jevtić	
THE ROLE OF GREEN MARKETING IN SHAPING CONSUMER TRUST AND SUSTAINABLE BUSINESS PERFORMANCE .....	67
Marija Jankovic	
SPECIFICS OF CONFLICT MANAGEMENT IN PROJECT IMPLEMENTATION IN THE HOTEL INDUSTRY .....	68
Aleksandar Rašović, Bojana Ostojić, Ivana Savić	
HUMANIZING THE MACHINE: A QUALITATIVE ANALYSIS OF EMPLOYEE NARRATIVES ON AI ADOPTION IN CORPORATE COMMUNICATION.....	69
Esma Nur Cerinan Otovic, Ivana Savic	
THE ROLE OF MARKETING IN TECHNOLOGY TRANSFER: FROM RESEARCH TO COMMERCIALISATION.....	70
Lara Klevernić	
DIGITAL MARKETING TRAINING FOR PERSONS WITH DISABILITIES: DOES IT WORK FOR EVERYONE? .....	71
Nevena Veselinovic, Milena Lazic, Vladimir Simovic	

STRATEGIC RECRUITMENT MANAGEMENT AND PERFORMANCE ALIGNMENT IN PROFESSIONAL ASSOCIATIONS: AN INTEGRATED FRAMEWORK FOR SUSTAINABLE ORGANIZATIONAL EFFECTIVENESS..... 72

Tatjana Mamula Nikolić, Dragana Nikolić-Ristić

FINANCIAL ANALYSIS OF PUBLIC-PRIVATE PARTNERSHIPS IN INFRASTRUCTURE PROJECTS..... 73

Marko Milic, Ognjen Bakmaz, Katarina N. Djordjevic

CROWDFUNDING AND MICROINVESTMENTS – NEW TRENDS IN PRIVATE INVESTMENTS..... 74

Emina Hogic, Darko Pasalic

ESG STRATEGIES AND POLICY FRAMEWORKS – A COMPARATIVE ANALYSIS OF EUROPE AND WESTERN BALKANS..... 75

Jugoslav Aničić, Ana Anufrijević

THE ROLE OF BANK IMAGE AND REPUTATION IN CONSUMER BEHAVIOR – A SYSTEMATIZATION OF RECENT EMPIRICAL FINDINGS ..... 76

Jelena Jevtić, Mira Vidaković, Zoran Jokić

EMPLOYER BRANDING AND TALENT OUTFLOW: UNDERSTANDING YOUTH EMIGRATION FROM MONTENEGRO..... 77

Jovana Lekić, Nikola Abramović

THE PRIORITY OF MODELING THE GROWTH OF ENTERPRISES IN DEBTED ECONOMICS..... 78

Dragan Vukasović, Ognjen Bakmaz, Biljana Bjelica

SUSTAINABILITY OF THE GROWTH MODEL IN TRANSITION COUNTRIES: THE CASE OF SERBIA..... 79

Edvard Jakopin

ARTIFICIAL INTELLIGENCE IN PR ACTIVITIES: PROSPECTS AND RISKS.....	80
Kartseva A. A., Fadeev A. A.	
INTERPRETATION OF ORGANIC AGRICULTURE IN TOURISM .....	81
Kristina Svržnjak, Sandra Kantar	
CRISIS MANAGEMENT AND ORGANIZATIONAL RESILIENCE IN AN ERA OF PERMANENT CRISIS.....	82
Dragan Bulatović Bojana Ostojić Jovan Spajić	
CONTEMPORARY APPROACHES TO MANAGEMENT IN CULTURAL INSTITUTIONS: THE ROLE OF ENTREPRENEURIAL COMPETENCIES.....	83
Luka M. Gavrilovic	
GOLDEN SKILLS OF FUTURE LEADERS.....	84
Ivana Petrevska, Miroslava Petrevska, Milan Janković	
NEW GENERATION OF CONSUMERS AND LEADERS FROM “WHAT’S IN IT FOR ME” TO PURPOSE-DRIVEN ENGAGEMENT .....	85
Tatjana Mamula Nikolić, Katarina Marković, Ivana Savić	
THE IMPACT OF SUSTAINABLE DIGITAL MARKETING ON CONSUMER BEHAVIOR.....	86
Dragana Nikolić Ristić, Tatjana Mamula Nikolić, Stanko Bulajić, Ivana Savić	
STRUCTURAL TRANSFORMATION AND REGIONAL SPECIALIZATION IN ICT AND KNOWLEDGE-INTENSIVE ACTIVITIES IN SERBIA .....	87
Đorđe Kotarac, Đorđe Mitrović, Simo Stevanović	
TWO DECADES OF THE BELEX 15 INDEX.....	88
Dragan Stojković, Vojislav Bačanin	

BOUTIQUE HOTELS IN THE OLD TOWN OF KOTOR AS A MODEL OF DIFFERENTIATION OF THE DESTINATION’S TOURISM OFFER .....	89
---	----

Silvana Durasevic, Andela Radenovic

ANALYSIS OF THE SERVICE OFFERING OF HEALTHCARE INSTITUTIONS IN THE FIELD OF AESTHETIC TOURISM IN THE REPUBLIC OF SERBIA .....	90
---	----

Zana Tešić, Dušan Garabinović

PERCEPTION OF THE CITIZENS OF MONTENEGRO REGARDING THE ROLE OF DIGITAL COMMUNICATION CHANNELS OF STATE INSTITUTIONS DURING CRISIS SITUATIONS .....	91
--	----

Nikolina Pejović, Marija Janković

HUMAN RESOURCE MANAGEMENT IN HEALTHCARE, TOURISM, AND HEALTH TOURISM IN THE MORAVICA ADMINISTRATIVE DISTRICT .....	92
--	----

Zana Tešić, Dušan Garabinović

DEVELOPMENT OPPORTUNITIES OF HEALTH TOURISM.....	93
--	----

Duško Stić, Marinko Mikić, Muamer Muminović

CREATING ADDED VALUE BY INVESTING IN RENEWABLE ENERGY SOURCES .....	94
---	----

Tihomir Vujčić, Aldijana Šuta, Anita Rupnik

DECENTRALIZED FINANCE (DEFI) AND THE DEVELOPMENT OF FINANCIAL SERVICES: OPPORTUNITIES, RISKS AND POTENTIAL FUTURE CHANGES .....	95
---	----

Dusko Lalovic

DISTRIBUTIONAL PROPERTIES OF REALIZED ECONOMIC RISK:A FIRM LEVEL PERSPECTIVE .....	96
--	----

Nedžad Lajka, Nikola Abramovic, Aleksandar Stankovic

<b><i>Sustainable development, ecology, energy efficiency and renewable energy sources</i></b> .....	<b>97</b>
GEOSPATIAL HACKING OF INFRASTRUCTURE WITH A DRONE – COASTAL REAL ESTATES (VILLAS) IN THE SOUTHERN MUNICIPALITY .....	98
Jovana Jovanović, Milena Đukanović, Ivan Stevović, Mihailo Jovanović	
REMOVAL OF CONTAMINANTS OF EMERGING CONCERN FROM WATER USING MAGNETITE-BIOCHAR ADSORBENT .	99
Mirjana Petronijević, Sanja Panić, Nebojša Vasiljević, Taciana Guarnieri, João Sérgio, Geórgia Labuto, Vanessa Pereira, Joao Crespo, Nataša Đurišić-Mladenović	
BIOETHANOL AS A DRIVER OF SUSTAINABLE DEVELOPMENT: OPPORTUNITIES AND CHALLENGES FOR THE REGIONAL BIOECONOMY .....	100
Vesna Vučurović, Jelena Filipović, Bojana Bajić, Damjan Vučurović, Siniša Dodić	
A HARMONISED METAL INDEX FOR ASSESSING LONGITUDINAL METAL POLLUTION ALONG THE DANUBE RIVER.....	101
Atila Bezdán, Jovana Bezdán	
BIOCATALYTIC REMOVAL OF PHENOLIC COMPOUNDS FROM WATER USING PEROXIDASE IMMOBILIZED ONTO MAGNETIC COMPOSITE MATERIAL .....	102
Mirjana Petronijević, Sanja Panić, Jelena Tanasić, Aleksandra Cvetanović Kljakić, Biljana Lončar, Slavica Ražić	
FROM PROJECT DOCUMENTATION TO TRANSFERABLE KNOWLEDGE: LESSONS, POLICY INSIGHTS AND REPLICATION POTENTIAL OF IT SUPPORTED SOLUTIONS FOR SHALLOW GEOTHERMAL ENERGY IN THE DANUBE REGION .....	103

Filip Nastić, Dubravka Živković, Davor Končalović, Vladimir  
Vukašinović, Mladen Josijević, Dušan Gordić

ENERGY MANAGEMENT IN PUBLIC BUILDINGS:  
IMPLEMENTATION FRAMEWORK AND ASSESSMENT IN  
SERBIA ..... 104

Snežana Dragičević, Ivan Milićević, Milan Marjanović, Nikola  
Radosavljević

EFFECT OF SIZE AND STRUCTURE OF CARBOXYLIC ACIDS  
ON ADSORPTION ..... 105

Vlatko Kastratovic, Bojana Knezevic-Vulicevic

MICROPLASTICS IN ORGANIC AGRICULTURE: SOURCES,  
PATHWAYS, AND POTENTIAL RISKS TO THE ENVIRONMENT  
AND HUMAN HEALTH..... 106

Sandra Kantar, Marina Mamić Baković, Kristina Svržnjak

LONG-TERM TREATMENT EFFICIENCY OF CONSTRUCTED  
WETLANDS AS NATURE-BASED SOLUTIONS FOR  
WASTEWATER TREATMENT ..... 107

Jovana Bezdán

CARBON-BASED NANOMATERIALS IN THE TREATMENT OF  
HEAVY METAL-CONTAMINATED WATER AND  
ENVIRONMENTAL REMEDIATION: A REVIEW..... 108

Emina Boškailo

MULTI-CRITERIA ASSESSMENT OF SURFACE RUNOFF  
POTENTIAL IN THE JUŽNA MORAVA BASIN USING GIS AND  
OPEN SPATIAL DATA..... 109

Jelica Protić, Milan Protić

***Artificial Intelligence, computer science and information technology***  
..... **110**

AI ASSISTANTS IN THE HANDS OF PROGRAMMERS:  
PRODUCTIVITY, CODE QUALITY AND DECISION-MAKING  
..... 111

Aleksandar Rašović, Bojana Ostojić, Milena Cvjetković, Esma Nur Cerinan Otović

APPLICATION OF ARTIFICIAL INTELLIGENCE IN  
BIOENGINEERING: A MINI-REVIEW OF CONTEMPORARY  
MODELS FOR PREDICTING BIODYNAMIC RESPONSE AND  
COMFORT (2024–2026)..... 112

Aleksandar Milovanovic, Igor Saveljic, Slavica Macuzic Saveljic

DEVELOPMENT OF THE BUSINESS INFORMATION SYSTEM  
AND ITS APPLICATION IN THE PRODUCTION PRACTICE OF  
THE COMPANY ..... 113

Jasmina Ćurčić, Zoran Nešić, Jelena Jovanović, Neda Nikolić,  
Dragana Perišić

APPLICATION OF OPTIMIZATION ALGORITHMS IN  
DIMENSIONAL SYNTHESIS OF PLANAR MECHANISMS ..... 114

Marina Bošković, Radovan Bulatović, Marko Todorović

ACCELERATING REVERSE ENGINEERING USING  
SUPPORTING ALGORITHMS..... 115

Marko Horvatek, Marko Katić

ARTIFICIAL INTELLIGENCE AND THE MICROFOUNDATIONS  
OF DIGITAL TRANSFORMATION: A DYNAMIC CAPABILITIES  
PERSPECTIVE..... 116

Nikola Radosavljević, Miloš Papić, Dragana Perišić, Slobodan Đekić

ARTIFICIAL INTELLIGENCE IN MECHANICAL ENGINEERING:  
APPLICATIONS, CHALLENGES, AND FUTURE DIRECTIONS  
..... 117

Igor Saveljic and Slavica Macuzic Saveljic

APPLICATION OF ARTIFICIAL INTELLIGENCE IN  
BIOENGINEERING: A MINI-REVIEW OF CONTEMPORARY  
MODELS FOR PREDICTING BIODYNAMIC RESPONSE AND  
COMFORT (2024–2026)..... 118

Slavica Macuzic Saveljic and Igor Saveljic

FUNCTIONALITY OF POWER BI FOR DIFFERENT DATA STRUCTURES .....	119
Nataša Gojgić, Vesna Ružičić, Marija Nikolić, Vesna Petrović	
DEVELOPMENT OF A WEB APPLICATION FOR CONTAINERS AUTOMATED DEPLOYMENT AND MANAGEMENT ON WEB SERVERS .....	120
Nikola Vukotić, Slavimir Stošović, Ilija Radojković	
ARTIFICIAL INTELLIGENCE IN FDM 3D PRINTING: A REVIEW OF APPLICATIONS, METHODS, AND RESEARCH CHALLENGES .....	121
Milan Pavlović, Gordana Jović, Milica Janković	
EFFICIENT IMPLEMENTATION AND EVALUATION OF SIMPLE K-MEANS CLUSTERING IN A MODERN ML WORKBENCH.....	122
Ognjen Tomić, Miloš Papić	
A MODULAR FRAMEWORK FOR DATA PREPROCESSING IN INTERACTIVE MACHINE LEARNING WORKBENCHES.....	123
Ognjen Tomić, Miloš Papić	
GAN ART .....	124
Ivana Savić, Tatjana Mamula Nikolić, Esmā Nur Cerinan Otović	
VISION-BASED MOBILE OBJECT TRACKING ROBOT SIMULATION.....	125
Ana Ćirić, Milica Danković	
A DATA-DRIVEN FRAMEWORK FOR STUDENT PERFORMANCE ANALYSIS USING UMAP AND HIERARCHICAL CLUSTERING.....	126
Jovana Stojanovic, Stefan Jovanovic	
FROM 3D VISUALIZATION TO AI SUPPORT IN AUTOMATED MATERIAL HANDLING SYSTEM DESIGN .....	127
Jovan Šulc, Vule Reljić	

INTELLIGENT DECISION SUPPORT SYSTEMS:  
EXPLAINABILITY AND THE DECISION-MAKING PROCESS IN  
GEOSTRATEGIC ASSESSMENTS AND DECISIONS ..... 128

Branislav Belotić, Miloš Papić

A TRUST-AWARE EXPLAINABLE AI FRAMEWORK FOR  
CYBER-RESILIENT SMART TRANSPORTATION  
INFRASTRUCTURE SYSTEMS ..... 129

Mohammad Farhad Ayazi, Maninder Singh, Rajiv Kumar

A SERVICE-ORIENTED ORCHESTRATION ARCHITECTURE  
FOR REAL-TIME MARITIME ROUTE MONITORING..... 130

Veljko Loncarevic, Zeljko Jovanovic

DEVELOPMENT OF A WEB APPLICATION FOR AUTOMATED  
GENERATION OF STANDARDIZED ACADEMIC TEACHING  
REPORTS FROM SPREADSHEET DATA..... 131

Milan Ristić, Nikola Vukotić, Nikola Milutinović

INDUSTRIAL METAVERSE APPLICATIONS IN TRAINING AND  
PROCESS SIMULATION ..... 132

Milica Jankovic, Nikola Vukotic, Gordana Jovic, Milan Pavlovic, Milos  
Stevanovic

A MULTIMODAL GEOMETRIC–FUZZY FRAMEWORK FOR  
INTERPRETABLE LIVER LESION ANALYSIS USING MEDICAL  
IMAGING, 3D VISUALIZATION, AND RADIOLOGICAL  
REPORTS ..... 133

Irma Ibrišimović, Nataša Milosavljević, Nebojša M. Ralević

DEVELOPMENT OF AN INTEGRATED AI PLATFORM BASED  
ON MATHEMATICAL MODELS FOR THE MEDICAL IMAGING  
ANALYSIS..... 134

Irma Ibrišimović, Nebojša M. Ralević, Bratislav D. Iričanin, Julija  
Ščekić, Damir Bajrić

EXTENDING DATA STRUCTURES FOR INTELLIGENT AGENTS TOWARD DYNAMIC EXPOSURE ASSESSMENT IN EVACUATION SIMULATIONS ..... 135

Srdjan Popov, Tanja Vranic, Jovana Simic, Milena Zeljkovic, Cveta Lazic and Djordje Cosic

***Education, online education – eLearning..... 136***

HOW AI- POWERED PERSONALIZATION IMPROVE STUDENT RECRUITMENT AND ENGAGEMENT ..... 137

Esma Nur Cerinan Otovic, Bojana Ostojic

DIGITAL MIND MAPPING AS A TOOL FOR ENHANCING ENGAGEMENT AND ACHIEVEMENT IN MATHEMATICS..... 138

Mikloš Kovač, Mirjana Brdar, Goran Radojev

THE ROLE OF THE FAMILY IN THE DYNAMICS OF PEER RELATIONSHIPS IN AN INCLUSIVE CLASSROOM OR GROUP ..... 139

Maja Hmelak

APPLICATION OF ARTIFICIAL INTELLIGENCE IN IMPROVING EDUCATION SYSTEMS IN BOSNIA AND HERZEGOVINA..... 140

Alem Kozar

QUANTITATIVE ANALYSIS OF MATHEMATICS AND STATISTICS IN ECONOMICS PROGRAMS ACROSS UNIVERSITIES IN FORMER YUGOSLAVIA COUNTRIES ..... 141

Milica Maric, Mirjana Milijevic

CHANGES IN THE EDUCATIONAL SYSTEM AND THE NEED FOR A NEW PEDAGOGICAL APPROACH..... 142

Muzafer Bibić

LABORATORY CAPACITY BUILDING FOR INDUSTRY 4.0... 143

Miloš Ristić, Biljana Milutinović, Petar Đekić, Milan Pavlović, Milan Nikolić, Vesna Ristić

LEVERAGING INTERACTION LOGS FROM AN AI-SUPPORTED PLATFORM FOR LESSON AND ASSESSMENT DESIGN .....	144
Olga Dukić, Danijela Milošević	
ONLINE LEARNING TODAY: ADVANTAGES AND CHALLENGES .....	145
Ivana Savić, Esmā Nur Cerinan Otović, Bojana Ostojčić	
THE IMPACT OF GENDER STEREOTYPES ON RELATIONSHIPS BETWEEN CHILDREN FROM VULNERABLE GROUPS AND THEIR PEERS IN SCHOOL .....	146
Maja Hmelak, Eva Kranjec, Nika Golob, Irena Petrušić, Tomaž Bratina	
THE ROLE OF ARTIFICIAL INTELLIGENCE IN CONTEMPORARY PRESCHOOL EDUCATION.....	147
Petra Janković	
DIGITAL COMPETENCIES OF STUDENTS AS A FACTOR IN THE SUCCESSFUL IMPLEMENTATION OF DISTANCE TEACHING AND LEARNING .....	148
Tanja Panić, Marta Dedaj, Dejan Savičević, Ivana Petrevska, Aleksandar Miletić, Ana Rodić	
SUSTAINABLE DEVELOPMENT AS A CHALLENGE FOR HIGHER EDUCATION .....	149
Ivica Opačak, Siniša Bilić, Zvonimir Filipović	
<b><i>Legal and political sciences, sociology, psychology.....</i></b>	<b><i>150</i></b>
THE POSITION OF WOMEN IN THE CONTEXT OF GENDER EQUALITY IN A DEMOCRATIC SOCIETY .....	151
Jasmina Tahirović, Adis Mehić	
LEGAL REGIME GOVERNING THE ESTABLISHMENT OF HEALTHCARE INSTITUTIONS.....	152
Boro Krstić, Jasmina Šljivić, Mladen Nikolić	

VICTIMOLOGY MEASURES FOR THE PREVENTION OF  
VICTIMIZATION AND DISCRIMINATION OF WOMEN AND  
GIRLS IN BOSNIA AND HERZEGOVINA..... 153

Azra Adžajlić-Dedović, Halima Sofradžija, Tarik Humačkić

NATIONAL HEALTH DATA AND AI: PRIVACY AND SOCIAL  
SECURITY RISKS IN HUNGARY’S EESZT IN COMPARATIVE  
PERSPECTIVE WITH ROMANIA UNDER REGULATION (EU)  
2024/1689 (AI ACT)..... 154

Nóra Jakab, Boglárka Iklandi

VIRTUAL INFLUENCERS IN THE CONTEXT OF  
PARTICIPATORY CULTURE: A NETNOGRAPHIC STUDY ..... 155

Murat Aytas

## APPLICATION OF ORTHOGONALITY ON THE SEMICIRCLE IN SIGNAL PROCESSING

Marija Stanić<sup>1</sup>, Tatjana Tomović Mladenović<sup>1</sup>, Aleksandra Milosavljević<sup>1</sup>

<sup>1</sup>Department of Mathematics and Informatics, Faculty of Science, University of  
Kragujevac, Kragujevac, Serbia

Corresponding author e-mail address: [aleksandra.milosavljevic@pmf.kg.ac.rs](mailto:aleksandra.milosavljevic@pmf.kg.ac.rs) (A.  
Milosavljević)

---

### **ABSTRACT:**

*In 1987, in Gautschi W., Landau H.J, Milovanović G.V. Polynomials orthogonal on the semicircle, II. Constr. Approx. 1987;3:389–404. the weighted orthogonality on the semicircle and the corresponding orthogonal polynomials were introduced.. Orthogonality is defined using an integral over the area of the upper unit semicircle centered at the origin, without conjugating the second component. Later, the Gaussian quadrature rule on the semicircle was considered. After a long period of time, the authors of this work came up with the idea that quadrature rules on the semicircle could be further developed and improved. The reason for this type of research was the application of these quadrature rules in integrals that frequently appear in signal processing. What differentiates these quadrature rules from the classical ones is the non-Hermitian inner product, which is more advantageous for practical examples, but the validity of standard assertions for quadrature rules must be proven. In this paper, we present applications of all the quadrature formulas on the semicircle that we dealt with and for which we proved the corresponding assertions, primarily in signal processing. Using numerical examples, we illustrate significantly smaller errors when approximately calculating the values of the integrals that appear in signal processing using Gaussian quadrature rules on the semicircle. In addition, we provide quadrature rules through which one can estimate the obtained error with high precision.*

**Keywords:** *orthogonality on the semicircle, quadrature rules, signal processing*