Faculty of Engineering
University of Kragujevac

Ministry of Science, Technological Development and Innovation

11th International Congress
Motor Vehicles & Motors 2026

ECOLOGY - VEHICLE AND ROAD SAFETY - EFFICIENCY

Proceedings



University of Kragujevac

Department for Motor Vehicles and Motors

International Journal for Vehicle Mechanics, Engines and Transportation Systems

October 8th - 9th, 2026
Kragujevac, Serbia

11th International Congress
Motor Vehicles & Motors 2026

ECOLOGY - VEHICLE AND ROAD SAFETY - EFFICIENCY

BOOK OF PROCEEDINGS

October 8th - 9th, 2026
Kragujevac, Serbia

Publisher: The Faculty of Engineering of the University of Kragujevac
Serbia, 34000 Kragujevac, Sestre Janjić 6

For Publisher: Prof. Slobodan Savić, Ph.D.
Dean of the Faculty of Engineering

Editors: Prof. Danijela Miloradović, Ph.D.
Assist. prof. Nadica Stojanović, Ph.D.
The Faculty of Engineering of the University of Kragujevac

Technical preparation: Asisst. Prof. Nadica Stojanović, Ph.D.

Cover: Nemanja Lazarević

USB edition: Faculty of Engineering, University of Kragujevac, Kragujevac

ISBN: 978-86-6335-132-5

Year of publication: 2026.

Published on USB by: InterPrint
Aleksinačka St. nn, 34000 Kragujevac, Serbia

Number of copies: 100

CIP - Каталогизација у публикацији Народна библиотека Србије, Београд

629.3(082)(0.034.2)
621.43(082)(0.034.2)

INTERNATIONAL Congress Motor Vehicles & Motors (11 ; 2026 ; Kragujevac)
Ecology - Vehicle and Road Safety - Efficiency [Elektronski izvor] : proceedings / 11th international congress Motor vehicles & motors 2026, October 8th - 9th, 2026 Kragujevac, Serbia ; [editors Danijela Miloradović, Nadica Stojanović]. - Kragujevac : University, Faculty of Engineering, 2026 (Kragujevac : InterPrint). - 1 USB fleš memorija ; 1 x 2 x 6 cm

Sistemski zahtevi: Nisu navedeni. - Nasl. sa nasl. strane dokumenta. - Tiraž 100. - Bibliografija uz svaki rad.

ISBN 978-86-6335-132-5

a) Моторна возила -- Зборници b) Моторни са унутрашњим сагоревањем -- Зборници

COBISS.SR-ID 201905929

Publishing of this USB Book of proceedings was supported by
Ministry of Science, Technological Development and Innovation of the Republic of Serbia

Copyright © 2026 Faculty of Engineering, University of Kragujevac

This book is published online with Open Access and distributed under the terms of the Creative Commons Attribution License 4.0 (CC BY 4.0).

SCIENTIFIC BOARD

President

Prof. Danijela Miloradović, Ph.D., UniKg, FE, Serbia

Secretaries

Assist. Prof., Slavica Mačužić Saveljić, Ph.D., UniKg, FE, Serbia
Assist. Prof., Saša Milojević, Ph.D., UniKg, FE, Serbia

Members

Prof. Oday Ibraheem Abdulah, ANUni, CoE, Baghdad, Iraq
Assist. Prof. Ali Belhocine, UniMSM, FST, Mascara, Algeria
Emeritus Prof. Giovanni Belingardi, Ph.D., PoliTo, Turin, Italy
Prof. Murat Ciniviz, Ph.D., SelUni, FT, Konya, Turkey
Prof. Adrian Clenci Ph.D., UniPolBU, Bucharest, Romania
Prof. Bruno Dalla Chiara, Ph.D., PoliTo, Turin, Italy
Assoc. Prof. Aleksandar Davinić, Ph.D., UniKG, FE, Kragujevac, Serbia
Prof. Miroslav Demić, Ph.D., UniKG, FE, Kragujevac, Serbia
Prof. Jovan Dorić Ph.D., UniNS, FTS, Novi Sad, Serbia
Prof. Mohamed Ali Emam, Ph.D., HUni, FE, Cairo, Egypt
Prof. Jasna Glišović, Ph.D., UniKG, FE, Kragujevac, Serbia
Prof. Valentina Golubović Bugarski, Ph.D., UniBL, FME, Banja Luka, RS, Bosnia and Herzegovina
Assoc. Prof. Ivan Grujć, Ph.D., UniKG, FE, Kragujevac, Serbia
Prof. Rosen Hristov, Ph.D., TU Varna, Varna, Bulgaria
Prof. Aleksandra Janković, Ph.D., UniKG, FE, Kragujevac, Serbia
Assoc. Prof. Aleksandar Jovanović, Ph.D., UniKG, FE, Kragujevac, Serbia
Prof. Emrullah Hakan Kaleli, Ph.D., YTU, Istanbul, Turkey
Prof. Janez Kopač, Ph.D., UniLJ, FME, Ljubljana, Slovenia
Prof. Jovanka Lukić, Ph.D., UniKG, FE, Kragujevac, Serbia
Assist. Prof. Slavica Mačužić Saveljić, Ph.D., UniKG, FE, Kragujevac, Serbia
Assist. Prof. Saša Milojević, Ph.D., UniKG, FE, Kragujevac, Serbia
Assist. Prof. Slobodan Mišanović, Ph.D., CPTC Belgrade, Belgrade, Serbia
Prof. Alexander Novikov, Ph.D., OSUni, Orel, Russian Federation
Prof. Sreten Perić, Ph.D., UniD, MA, Belgrade, Serbia
Prof. Radivoje Pešić, Ph.D., UniKG, FE, Kragujevac Serbia
Prof. Snezana Petković, Ph.D., UniBL, FME, Banja Luka, RS, Bosnia and Herzegovina
Prof. Ralph Puetz, Ph.D., LUniAS, Landshut, Germany
Prof. Dragan Ružić, Ph.D., UniNS, FTS, Novi Sad, Serbia
Prof. Mikhail Shatrov, Ph.D., MADI, Moscow, Russian Federation
Assoc. Prof. Aleksandar Stevanović, Ph.D., UniPitt, Pittsburgh, USA
Assist. Prof. Nadica Stojanović, Ph.D., UniKG, FE, Kragujevac, Serbia
Assoc. Prof. Boris Stojić, Ph.D., UniNS, FTS, Novi Sad, Serbia
Prof. Radoje Vujadinović, Ph.D., UniMN, FME, Podgorica, Montenegro
Assoc. Prof. Predrag Živanović, Ph.D., UniBG, FTTE, Belgrade, Serbia

ORGANIZATIONAL BOARD

President

Asst. Prof., Nadica Stojanović, Ph.D., UniKg, FE, Serbia

Secretaries

Assist. Prof., Slavica Mačužić Saveljić, Ph.D., UniKg, FE, Serbia
Assist. Prof., Saša Milojević, Ph.D., UniKg, FE, Serbia

Members:

Prof. dr Jovanka Lukić, UniKg, FE, Kragujevac, Serbia
Prof. dr Jasna Glišović, UniKg, FE, Kragujevac, Serbia
Assoc. Prof. dr Aleksandar Davinić, UniKg, FE, Kragujevac, Serbia
Assoc. prof. dr Aleksandar Jovanović, UniKg, FE, Kragujevac, Serbia
Assoc. prof. dr Ivan Grujić, UniKg, FE, Kragujevac, Serbia

MVM2026 CONGRESS ORGANIZERS

Faculty of Engineering of the University of Kragujevac
Department for Motor Vehicles and Motors, FE Kragujevac
International Journal “Mobility & Vehicle Mechanics”

MVM2026 CONGRESS PATRONS

Ministry of Science, Technological Development and Innovation of the Republic of Serbia
Faculty of Engineering of the University of Kragujevac

MVM2026 CONGRESS REVIEWERS

Prof. dr Oday Ibraheem Abdulah, UniBAG, CoE, Baghdad, Iraq
Assist. Prof. dr Ali Belhocine, UniMSM, FST, Mascara, Algeria
Emeritus Prof. dr Giovanni Belingardi, PoliTo, Turin, Italy
Assoc. Prof. dr Aleksandar Davinić, UniKG, FE, Kragujevac, Serbia
Prof. dr Miroslav Demić, UniKG, FE, Kragujevac, Serbia
Prof. dr Jovan Dorić, UniNS, FTS, Novi Sad, Serbia
Prof. dr Jasna Glišović, UniKG, FE, Kragujevac, Serbia
Prof. dr Valentina Golubović Bugarski, UniBL, FME, Banja Luka, RS, Bosnia & Herzegovina
Assoc. Prof. dr Ivan Grujić, UniKG, FE, Kragujevac, Serbia
Prof. dr Rosen Hristov, TU Varna, Varna, Bulgaria
Assoc. Prof. dr Aleksandar Jovanović, UniKG, FE, Kragujevac, Serbia
Prof. dr Janez Kopač, UniLJ, FME, Ljubljana, Slovenia
Prof. dr Jovanka Lukić, UniKG, FE, Kragujevac, Serbia
Assist. Prof. dr Slavica Mačužić Saveljić, UniKG, FE, Kragujevac, Serbia
Assist. Prof. dr Saša Milojević, UniKG, FE, Kragujevac, Serbia
Prof. dr Danijela Miloradović, UniKG, FE, Kragujevac, Serbia
Assist. Prof. dr Slobodan Mišanović, CPTC Belgrade, Belgrade, Serbia
Prof. dr Radivoje Pešić, UniKG, FE, Kragujevac Serbia
Prof. dr Snezana Petković, UniBL, FME, Banja Luka, RS, Bosnia & Herzegovina
Prof. dr Dragan Ružić, UniNS, FTS, Novi Sad, Serbia
Assoc. Prof. dr Aleksandar Stevanović, UniPitt, Pittsburgh, USA
Assist. Prof. dr Nadica Stojanović, UniKG, FE, Kragujevac, Serbia
Assoc. Prof. dr Boris Stojić, UniNS, FTS, Novi Sad, Serbia

FOREWORD

For 47 years, a traditional international gathering - originally known as a Symposium and, since 2006, as the "Motor Vehicles and Motors" Congress - has been held biennially at the Faculty of Engineering (formerly the Faculty of Mechanical Engineering) of the University of Kragujevac. This year, the 11th International Congress "Motor Vehicles and Motors" took place in Kragujevac on October 8th–9th, 2026, under the traditional motto: "Ecology – Vehicle and Road Safety – Efficiency".

A large number of authors from both the country and abroad responded to the organizers' invitation, resulting in numerous high-quality submissions across the event's core areas: "Power Train Technology," "Vehicle Design and Manufacturing," "Vehicle Dynamics and Intelligent Control Systems," "Driver/Vehicle Interface, Information Systems, and Assistance Systems," and "Transport Challenges in Emerging Economies." Additionally, two topics were officially introduced for the first time: "Artificial Intelligence in Automotive Technology" and "Autonomous Vehicles".

A total of 63 papers were accepted for presentation following a rigorous peer-review process. The presentations were organized into sessions, including a newly introduced poster session dedicated to students and young researchers.

The Congress organizers extend their special gratitude to the distinguished scientists in the fields of motor vehicles and transportation who agreed to deliver three inspiring introductory lectures addressing the heart of contemporary issues in the sector: prof. dr Ralph Putz (Landshut University of Applied Sciences, Germany), prof. dr Aleksandar Stevanović (University of Pittsburgh, USA), and prof. dr. Isak Karabegović (Academy of Sciences and Arts of Bosnia and Herzegovina, Bosnia and Herzegovina).

We extend our sincere gratitude to the esteemed members of the Congress Scientific Committee—who also served as reviewers for the papers submitted for presentation—for their significant contribution to the overall quality of the accepted papers.

The organization of the Congress was once again supported by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia, the Faculty of Engineering of the University of Kragujevac, and the International journal “Mobility & Vehicle Mechanics” and we sincerely thank them for their support.

Scientific Board and Organizational Board of MVM2026 Congress

PREDGOVOR

Već 47 godina, svake druge godine, na Fakultetu inženjerskih nauka (nekada Mašinskom fakultetu) Univerziteta u Kragujevcu održava se tradicionalan međunarodni skup, nekada nazivan Simpozijum, a od 2006. godine - Kongres „Motorna vozila i motori“. Ovogodišnji, 11. Međunarodni kongres „Motorna vozila i motori“ održan je u Kragujevcu od 8. do 9. oktobra 2026. godine, uz tradicionalni moto „Ekologija – Vozilo i bezbednost na putu – Efikasnost“.

Na poziv organizatora odazvao se veliki broj autora iz zemlje i inostranstva, što je donelo veliki broj prijavljenih kvalitetnih radova iz glavnih oblasti skupa: „Tehnologija pogonskog sistema“, „Dizajn i proizvodnja vozila“, „Dinamika vozila i inteligentni upravljački sistemi“, „Interfejs vozač/vozilo, informacioni sistemi i sistemi za pomoć“, „Transportni izazovi ekonomija u usponu“, uz prvi put zvanično promovisane teme – „Veštačka inteligencija u automobilskoj tehnologiji“ i „Autonomna vozila“.

Ukupan broj od 63 radova je prihvaćen za prezentaciju posle rigoroznog procesa recenziranja. Rad je organizovan po sekcijama, uz prvi put promovisanu poster sekciju namenjenu za studente i mlade istraživače.

Organizatori Kongresa su posebno zahvalni istaknutim naučnicima iz oblasti motornih vozila i saobraćaja koji su pristali da održe tri inspirativna uvodna predavanja koja zadiru u srž savremenih pitanja vezana za vozila i saobraćaj, a to su: prof. dr Ralph Putz (Landshut University of Applied Sciences, Nemačka), prof. dr Aleksandar Stevanović (University of Pittsburgh, SAD) i prof. dr Isak Karabegović (Akademija nauka i umjetnosti Bosne i Hercegovine, Bosna i Hercegovina).

Veliku zahvalnost dugujemo našim dragim članovima Naučnog odbora Kongresa, ujedno i recenzentima radova prijavljenih za prezentaciju na Kongresu, koji su mnogo doprineli ukupnom kvalitetu konačno prihvaćenih radova.

Organizaciju Kongresa i ovog puta su podržali: Ministarstvo nauke, tehnološkog razvoja i inovacija Republike Srbije, Fakultet inženjerskih nauka Univeziteta u Kragujevcu i Međunarodni časopis „Mobility & Vehicle Mechanics“, na čemu im se iskreno zahvaljujemo.

Naučni odbor i Organizacioni odbor Kongresa MVM2026

CONTENT

INTRODUCTORY LECTURES

MVM2026-IL1	Ralph Pütz	OPERATING COSTS OF PUBLIC TRANSPORT BUSES WITH DIFFERENT PROPULSION SYSTEMS AND VARIOUS TYPES OF RENEWABLE ENERGY OVER TIME – WHERE IS THE JOURNEY HEADING?	3
MVM2026-IL3	Isak Karabegović	COLLABORATIVE ROBOTICS AND ARTIFICIAL INTELLIGENCE IN THE AUTOMOTIVE INDUSTRY: SMART ASSEMBLY AND AUTOMATED QUALITY CONTROL	13

SECTION A
Power Train Technology

MVM2026-003	Ivan Grujic Aleksandar Davinic Zeljko Djuric Jovan Doric Milan Eremija Attila Kiss Sunny Narayan	THE INVESTIGATION OF THE COMBUSTION PROCESS OF THE BLEND OF THE CONVENTIONAL DIESEL FUEL AND BIODIESEL MADE FROM THE WASTE GRAPE SEEDS	35
MVM2026-008	Željko Đurić Ivan Grujić Nadica Stojanović Snežana Petković Jelena Adžić Milan Eremija	EXPERIMENTAL INVESTIGATION OF THE COMBUSTION PROCESS AND EFFICIENCY OF A DIESEL ENGINE IN THE CASE OF BIODIESEL FUEL APPLICATION	41
MVM2026-011	Milan Eremija Ivan Grujić Danijela Miloradović Željko Đurić Svetko Milutinović Nadica Stojanović	EXPERIMENTAL ANALYSIS OF EXHAUST GAS TEMPERATURE DURING THE USE OF BIODIESEL FUEL	53
MVM2026-013	Krasimir Markov Hristo Stanchev	INVESTIGATION OF THE FUEL CONSUMPTION AND EMISSIONS OF A DIESEL ENGINE RUNNING ON DIESEL WITH AN ADDITIVE	61
MVM2026-015	Milan Eremija Zoran Ristikić Svetko Milutinović Mesud Ajanović	EXPERIMENTAL INVESTIGATION OF THE INFLUENCE OF TIRE PRESSURE ON THE ROLLING RESISTANCE COEFFICIENT OF COMMERCIAL VEHICLES	67
MVM2026-025	Marko Lučić Mirjana Grdinić-Rakonjac Radoje Vujadinović Vladimir Pajković Ivan Grujić	ENERGY USE IN MONTENEGRO'S ROAD TRANSPORT SECTOR: TRENDS, FUEL STRUCTURE AND DEPENDENCE ON PETROLEUM-BASED FUELS	77

MVM2026-030	Vladimir Kočović Živana Jovanović Pešić Miloš Pešić Jelena Đusić Dragan Džunić	TRIBOLOGICAL PERFORMANCE OF BRASS SURFACES LUBRICATED WITH NEW AND USED ENGINE OILS	85
MVM2026-034	Mihailo Đuković Saša Milojević Slobodan Savić Blaža Stojanović Horia Abaitancei	APPLICATION OF A RADIAL HYDRAULIC MOTOR IN ALTERNATIVE VEHICLE DRIVE SYSTEMS	91
MVM2026-036	Marko Kitanović Slobodan Popović Nenad Miljić Predrag Mrđa	EFFECTIVE MIXTURE COMPOSITION IN THE ANGULAR DOMAIN IN SUPERCHARGED DISI ENGINE WITH MULTIPLE INJECTIONS	111
MVM2026-037	Petar Markov Radivoje Pušara Dragan Peruničić	A SINGLE-RANGE POLYNOMIAL MODEL FOR TEMPERATURE-DEPENDENT MIXTURE PROPERTIES IN COMBUSTION ENGINES WITH VARIABLE EGR RATES	125
MVM2026-038	Dragan Peruničić Petar Markov Radivoje Pušara	MODELING OF SPECIFIC HEAT RATIO FOR DISI ENGINES WITH COMPLEX MIXTURE FORMATION AND HIGH EGR RATES	139
MVM2026-041	Predrag Mrđa Slobodan Popović Nenad Miljić Marko Kitanović	EXPERIMENTAL AND CFD-BASED INVESTIGATION OF VAPOUR POCKET FORMATION IN AN INTERNAL COMBUSTION ENGINE COOLING SYSTEM	155
MVM2026-042	Nenad Miljić Predrag Mrđa Slobodan J. Popović	QUANTIFYING IMEP EVALUATION ERROR INDUCED BY PIEZOELECTRIC PRESSURE SENSOR AGEING IN INTERNAL COMBUSTION ENGINE INDICATION	165
MVM2026-051	Saša Milojević Marija Rafailović Michal Loman Branislav Šarkan Ján Vrábel Slobodan Savić	SAFETY AND OPERATIONAL CONSIDERATIONS FOR COMPOSITE HYDROGEN AND CNG STORAGE CYLINDERS IN VEHICLES	175
MVM2026-068	Mitar Mišić Stjepan Galamboš Boris Stojić Jovan Dorić Luka Sekicki	DEVELOPMENT OF AN ELECTRONIC MEASUREMENT SYSTEM FOR TURBOCHARGER WASTEGATE ACTUATOR RESPONSE-TIME TESTING	185
MVM2026-071	Mitar Mišić Stjepan Galamboš Jovan Dorić Boris Stojić Luka Sekicki	DESIGN AND IMPLEMENTATION OF A TEST BENCH FOR EVALUATING THE DYNAMICS OF PNEUMATIC WASTEGATE ACTUATORS	193

SECTION B
Vehicle Design and Manufacturing

MVM2026-006	Gordana Bogdanović Aleksandar Radaković Dragan Čukanović Petar Knežević Aleksandar Nešović	VARIATIONAL SHEAR CONTROL IN ESL–HSDT LAMINATES FOR AUTOMOTIVE STRUCTURES	203

MVM2026-007	Gordana Bogdanović Aleksandar Radaković Petar Knežević Dragan Čukanović Marko Milošević	FATIGUE ANALYSIS OF MATERIALS AND METHODS FOR CYCLE COUNTING UNDER ARBITRARY LOAD HISTORIES	211
MVM2026-009	Julija Boskovic Ivan Grujic Stefan Djuric Nadica Stojanovic Bogdan Zivkovic Milan Ivkovic Suzana Petrovic Savic	DEVELOPMENT OF AN EXPERIMENTAL FIVE-AXIS CNC SYSTEM USING STEPPER MOTORS	219
MVM2026-012	Saša Vasiljević Jasna Glišović Slobodan Vasiljević	ANALYSIS OF EXPERIMENTAL METHODOLOGIES FOR TESTING INNOVATIVE BRAKE SOLUTIONS	235
MVM2026-016	Ljubica Spasojević Zorica Djordjević Sonja Kostić Saša Jovanović	MODAL ANALYSIS OF A COMPOSITE CRANKSHAFT FOR AN INTERNAL COMBUSTION ENGINE (ICE)	245
MVM2026-017	Zvonko Petrović Suzana Petrović Savić Milica Tufegdžić Nikola Kostić Milena Petrović	MATHEMATICAL MODELING OF HYDRAULIC DRIVE FOR THE MITSUBISHI RV-2FRL INDUSTRIAL ROBOT: INFLUENCE OF MOMENT OF INERTIA ON SERVO VALVE RESPONSE TIME	253
MVM2026-022	Marko Delić Vesna Mandić Nada Ratković Nikola Komatina Dušan Arsić Nikola Kastratović	ANALYSIS OF THE INFLUENCE OF IMPORTANT FORMING PARAMETERS IN SHEET METAL STAMPING IN AUTOMOTIVE INDUSTRY USING FEA	267
MVM2026-024	Milan Simonović Dragan Adamović Đorđe Ivković Marko Simonović	ANALYSIS OF THE POSSIBILITY OF PREDICTING THE TENSILE STRENGTH OF ADVANCED STRUCTURAL STEELS USED IN THE AUTOMOTIVE INDUSTRY USING ARTIFICIAL NEURAL NETWORKS WITH DIFFERENT NUMBERS OF NEURONS IN THE HIDDEN LAYER	275
MVM2026-026	Nenad Petrović Živana Jovanović Pešić Dragan Džunić Vladimir Kočović Strahinja Milenković	CREATING CURVED MESHES BY HEAT-FORMING 3D-PRINTED PARTS	287
MVM2026-050	Danijela Tadić Jasna Glišović Nikola Komatina	COMPARATIVE ANALYSIS OF OBJECTIVE CRITERIA WEIGHTING METHODS FOR ELECTRIC VEHICLE EVALUATION	293
MVM2026-052	Dragan Čukanović Gordana Bogdanović Aleksandar Radaković Petar Knežević	APPLICATION, MODELLING AND BENDING ANALYSIS OF COMPOSITE LAMINATES IN MODERN VEHICLES	303
MVM2026-053	Mihajlo Jevtić Aleksandra Obradović Bogdan Todorović Nebojša Hristov Damir Jerković	FINITE ELEMENT ANALYSIS OF STRUCTURAL SUPPORT REACTIONS IN WHEELED MOBILE PLATFORM UNDER HIGH-INTENSITY IMPULSIVE LOADING	311

MVM2026-059	Dušan Milojević Nikola Kotorčević Đorđe Damljanović Nikola Živčević Dušan Arsić Fatima Živić	EFFECTS OF UNIT CELL GEOMETRY AND STRUT THICKNESS ON THE COMPRESSIVE BEHAVIOR OF 3D-PRINTED MECHANICAL METAMATERIALS	321
MVM2026-060	Nebojša Arsić Nenad Kostić Nenad Petrović Nenad Marjanović	APPLICATION OF 3D SCANNING AND CAD DEVIATION ANALYSIS AS A BASIS FOR PRESS TOOL OPTIMISATION IN THE AUTOMOTIVE INDUSTRY	325
MVM2026-061	Sandra Gajević Slavica Miladinović Nikola Mitrović Zorica Djordjević Saša Milojević Blaža Stojanović	APPLICATION OF LAMINATED COMPOSITES IN THE AUTOMOTIVE, AVIATION AND MARINE INDUSTRY	333
MVM2026-067	Luka Milić Ilija Vidović Matija Simanić Momir Drakulić Aleksandar Đurić	ADDITIVE MANUFACTURING AS A FABRICATION METHOD FOR A LIGHTWEIGHT TRACKED ROBOT PLATFORM	345
MVM2026-070	Dobrivoje Ćatić Vladimir Ćatić	A COMBINED FTA-FMEA PROCEDURE FOR PRODUCT DEVELOPMENT	355
MVM2026-073	Milan Blagojević Milan Bojović Živče Šarkoćević	REVERSE ENGINEERING OF A COMPLETE VEHICLE FOR THE DEVELOPMENT OF A MODULAR VEHICLE PLATFORM	363
MVM2026-076	Nenad Miloradović Rodoljub Vujanac Mirjana Piskulić	WAREHOUSE SYSTEMS IN THE AUTOMOTIVE INDUSTRY: A COMPARATIVE STUDY OF STORAGE SYSTEMS, HANDLING EQUIPMENT AND SAFETY CLEARANCE	369

SECTION C
Vehicle Dynamics and Intelligent Control Systems

MVM2026-001	Miroslav Demić Mikhail P. Malinovsky Andrija Vujičić	THEORETICAL-EXPERIMENTAL APPROACH TO THE DEVELOPMENT OF A METHOD FOR IDENTIFYING THE HEAT DISSIPATION RATE OF MOTOR VEHICLE SHOCK ABSORBERS	379
MVM2026-002	Aleksandar Jovanović Katarina Kukić Ana Uzelac Dušan Teodorović	DEEP Q-LEARNING ALGORITHM FOR TRAFFIC CONTROL AT A DISPLACED LEFT-TURN INTERSECTION	393
MVM2026-014	Boris Stojić Nebojša Nikolić Luka Sekicki	A FLEXIBLE COMPUTATIONAL MODEL FOR FUEL CONSUMPTION ESTIMATION IN ARBITRARY VEHICLE DRIVING CYCLES	403
MVM2026-018	Dušan Opsenica Ivan Blagojević Saša Mitić	THE INFLUENCE OF ELECTRIC VEHICLE CONFIGURATION ON VEHICLE DYNAMIC CHARACTERISTICS	413
MVM2026-023	Snežana Petković Valentina Golubović Bugarski Jelena Adžić Milan Eremija	ANALYSIS OF PARAMETERS INFLUENCING ROAD TANKER ROLLOVER	425

MVM2026-028	Momir Drakulić Aleksandar Đurić Sreten Perić	SENSITIVITY ANALYSIS OF A TERRAMECHANICS MODEL OF TRACK-TERRAIN INTERACTION WITH RESPECT TO VEHICLE DESIGN PARAMETERS	435
MVM2026-031	Marko Simonović Dragan Adamović Đorđe Ivković Milan Simonović	SELECTION OF MATERIALS FOR FRICTION COMPONENTS OF THE BRAKE MECHANISM	447
MVM2026-032	Zoran Papić Nenad Saulić Milja Simeunović	PREDICTION OF EES VALUES IN VEHICLE IMPACTS USING AI	461
MVM2026-035	Marijana Jeremić Lazar Krstić Miloš Ivanović Mihailo Lazarević Milan Matijević	DIGITAL TWIN DESIGN FOR TORSIONAL STIFFNESS ESTIMATION IN MOTOR-LOAD OSCILLATORY SYSTEMS USING PHYSICS-INFORMED NEURAL NETWORKS	471
MVM2026-040	Nebojša Jovičić Angelina Cvetanović Goran Bošković	EVALUATING THE EFFICIENCY OF OPTIMIZED WASTE COLLECTION ROUTES USING DATA ENVELOPMENT ANALYSIS	485
MVM2026-046	Aikaterini Zafeiri Clio Vossou Dimitrios Koulocheris	FLUID-STRUCTURE INTERACTION IN A TANK VEHICLE TRANSPORTING LIQUID FUEL	497
MVM2026-048	Ognjen Jovanović Milan Matijević	APPLICATION OF THE TIA PORTAL ENVIRONMENT FOR SOFTWARE-IN-THE-LOOP SIMULATION OF PLC CONTROL OF A FIRST-ORDER DYNAMIC SYSTEM	507
MVM2026-058	Nikola Gunić Hana Stefanović Milan Matijević	A NEW GENERATION OF WHEEL POSITION AND SPEED INTELLIGENT SENSORS FOR MOTOR VEHICLES	523
MVM2026-065	Danijela Miloradović Jasna Glišović Jovanka Lukić Nadica Stojanović	CONDITIONAL SPECTRAL ANALYSIS OF VEHICLE VIBRATION DATA	529
MVM2026-066	Matija Simanić Ilija Vidović Luka Milić Momir Drakulić Aleksandar Đurić	SIMULATION-BASED MOTION ANALYSIS OF A LIGHTWEIGHT TRACKED ROBOT USING WEBOTS	541
MVM2026-075	Branko Miličić Nikola Frlić Sekulić Miloš Mitrović Ivan Blagojević	IDENTIFICATION OF EFFECTIVE THERMO-PNEUMATIC TIRE PARAMETERS FROM REAL-WORLD ROAD TEST DATA	553

SECTION D
Driver/Vehicle Interface, Information and Assistance Systems

MVM2026-005	Slobodan Mišanović	THE INFLUENCE OF ENERGY DEMAND FOR PASSENGER COMPARTMENT CLIMATE CONTROL OF THE ENERGY EFFICIENCY OF ELECTRIC BUS	567
MVM2026-019	Dragan Ružić Miloš Vujković	DETERMINING THE FUEL CONSUMPTION REQUIRED FOR AIR-CONDITIONING OF A PASSENGER CAR UNDER REAL-WORLD CONDITIONS	579

MVM2026-020	Dragan Stojadinović Aleksandar Đurić Snežana Jovanović Miroslav Jovanović	THE INFLUENCE OF SEAT DESIGN AND SURFACE TYPE ON THE LEVEL OF VIBRATIONS EXPERIENCED BY A TRUCK DRIVER	589
MVM2026-063	Slavica Mačužić Saveljić Ognjen Matić Igor Saveljić	MACHINE LEARNING-BASED PREDICTION AND EXPLAINABILITY OF DRIVER DISCOMFORT AND FATIGUE: A DATA-DRIVEN EXTENSION OF A RAMSIS-BASED DIGITAL HUMAN MODEL STUDY	599
MVM2026-072	Jovanka Lukić Jasna Glišović Danijela Miloradović	COMPONENT COHERENCE-BASED ASSESSMENT OF MASKING EFFECTS IN TWO-DIRECTIONAL WHOLE-BODY VIBRATION	609
MVM2026-074	Milan Blagojević Saša Milojević Živče Šarkoćević Ivica Čamagić Dragan Lazarević	FIAT 500L REAR IMPACT PERFORMANCE IN EURO NCAP AND IIHS ASSESSMENTS	623

SECTION E
Transport Challenges in Emerging Economies

MVM2026-033	Janez Kopač Franci Pušavec	HIGHWAY ROAD TRAPS AS HIDDEN SOURCES OF CRASH RISK	633
MVM2026-044	Nadica Stojanović Ali Belhocine Ivan Grujić Željko Đurić Suzana Petrović Savić Oday I. Abdullah	THE IMPACT OF “DRUNK BUSTERS” ON THE ADEQUATE PERFORMANCE OF TASKS	645
MVM2026-055	Vladimir Vukašinović Dušan Gordić Vanja Šušteršič Mladen Josijević	SUSTAINABLE BIOFUELS FOR THE DECARBONISATION OF THE TRANSPORT SECTOR IN CITIES	659
MVM2026-062	Goran Bošković Nebojša Jovičić Angelina Cvetanović Saša Milojević	ASSESSMENT OF THE NUMBER OF END-OF-LIFE VEHICLES IN THE REPUBLIC OF SERBIA	669
MVM2026-064	Bojana Bošković Nadica Stojanović Saša Babić Milena Petrović Anđela Egerić	PREDICTION AND TIME-SERIES ANALYSIS OF ROAD DEATHS PER MILLION INHABITANTS IN THE REPUBLIC OF SERBIA AND THE EUROPEAN UNION FOR THE PERIOD 2012 TO 2030	677
MVM2026-069	Saša Jovanović Zorica Đorđević Danijela Nikolić Lozica Ivanović Saša Milojević	A SAW–BASED DECISION SUPPORT MODEL FOR THE SELECTION OF NEW AND USED PASSENGER CARS	691