

# Plenary Session

Thursday, October 13<sup>th</sup>, 2022

10:00 am to 12:30 am

Join Zoom Meeting

<https://zoom.us/j/97490324626?pwd=NkVvRTNjaVVSQ2tRZVJDekFaTFQxUT09>

Meeting ID: 974 9032 4626

Passcode: 352422

Opening Ceremony

Prof. Jovanka Lukić, President of the Scientific board of the Congress

Prof. Slobodan Savić, Dean of the Faculty of engineering of the University of Kragujevac

Prof. Nenad Filipović, Rector of the University of Kragujevac

INTRODUCTORY LECTURES

Giovanni Belingardi, Alessandro Scattina

**INTEGRATED UNDERBODY AND BATTERY PACK FOR BATTERY ELECTRIC VEHICLES:  
CHALLENGES AND SOLUTIONS IN THE DESIGN**

Ralph Pütz

**EUROPEAN POLICY ON FUTURE ROAD MOBILITY - TECHNOLOGY NEUTRALITY RIGHT OF WAY  
OR HEADED IN THE WRONG DIRECTION?**

# Section A - Power Train Technology

**Chairman: assoc. prof. A. Davinić**

Thursday, October 13 <sup>th</sup> , 2022 2:00 pm to 4:00 pm Join Zoom Meeting <a href="https://zoom.us/j/95399104324?pwd=bVdiNzdVM3dLdkVOSTVmOENYaDdlZz09">https://zoom.us/j/95399104324?pwd=bVdiNzdVM3dLdkVOSTVmOENYaDdlZz09</a> Meeting ID: 953 9910 4324 Passcode: 005591	
MVM2022-002	Blaga Vasile, Mihai Blaga: <b>THE STUDY OF THE PROCESSES THAT TAKE PLACE IN GASOLINE INJECTION ENGINES</b>
MVM2022-003	Blaga Vasile, Mihai Blaga: <b>THE INDICATED DIAGRAMS IN P-V COORDINATES CALCULATED AND MEASURED ON THE ENGINE STAND</b>
MVM2022-005	Miroslav Demić, Aleksandar Đurić, Aleksandar Grkić, Momir Drakulic, Slavko Muzdeka: <b>A CONTRIBUTION TO INVESTIGATION OF OSCILLATORY LOADS OF DRIVING AXLES IN ORDER TO CREATE CONDITIONS FOR LABORATORY TESTS OF TRUCKS</b>
MVM2022-0023	Zoran Masonić, Ivan Grujić, Aleksandar Davinić, Slobodan Savić, Radivoje Pešić: <b>NUMERICAL ANALYSIS OF INTAKE PORT MODIFICATION ONTO FLUID FLOW PATTERN AND FLAME PROPAGATION IN PARTICULAR COMBUSTION CHAMBER</b>
MVM2022-0016	Luka Ponorac, Ivan Blagojevic, Aleksandar Grkić: <b>ANALYSIS OF POWERTRAIN WORKLOAD DURING THE TURNING PROCESS OF A HIGH-SPEED TRACKED VEHICLE</b>
MVM2022-0021	Predrag Mrdja, Marko Kitanovic, Nenad Miljić, Slobodan Popovic: <b>INTERNAL COMBUSTION ENGINE TEST PLAN EXECUTION ORDER OPTIMIZATION USING TRAVELLING SALESMAN PROBLEM HEURISTICS APPROACH</b>
MVM2022-0022	Nebojša Nikolić, Nikola Crnogorac, Jovan Doric, Dalibor Feher, Stjepan Galamboš: <b>A COMPARISON OF MAIN BEARINGS LOAD OF TWO-CYLINDER "V" AND BOXER MOTORCYCLE ENGINES</b>
MVM2022-0047	Marko Kitanovic, Predrag Mrdja, Slobodan Popovic, Nenad Miljić: <b>THE INFLUENCE OF NARX CONTROL PARAMETERS ON THE FUEL EFFICIENCY IMPROVEMENT OF A HYDRAULIC HYBRID POWERTRAIN SYSTEM</b>

# Section B - Vehicle Design and Manufacturing

Chairman: prof. J. Lukić

Thursday, October 13 <sup>th</sup> , 2022 2:00 pm to 4:00 pm Join Zoom Meeting <a href="https://zoom.us/j/98603254376?pwd=Zm5oZjNKdWNRc3VCZ21SSEJGL2hZZz09">https://zoom.us/j/98603254376?pwd=Zm5oZjNKdWNRc3VCZ21SSEJGL2hZZz09</a> Meeting ID: 986 0325 4376 Passcode: 752873	
MVM2022-006	Ana Pavlovic, Cristiano Fragassa: <b>IMPACT DAMAGE ANALYSIS OF COMPOSITE AUTOMOTIVE COMPONENT</b>
MVM2022-0011	Saša Jovanović, Zorica Đorđević, Sonja Kostić, Danijela Nikolić, Milan Đorđević: <b>SELECTION OF SHAFT MATERIALS USING A MULTICRITERIA APPROACH</b>
MVM2022-0032	Stjepan Galamboš, Dalibor Feher, Nenad Poznanović, Nebojša Nikolić, Dragan Ružić, Jovan Dorić: <b>EXPERIMENTAL AND NUMERICAL STUDIES OF REDUCING OF DRAG FORCE A SEMI-TRAILER TRUCK MODEL USING THE CABIN SPOILER</b>
MVM2022-0033	Elena Angeleska, Vasko Changoski, Tashko Rizov, Sofija Sidorenko: <b>MBSE APPROACH FOR FACILITATING THE APPLICATION OF STANDARDS IN THE VEHICLE DEVELOPMENT PROCESS</b>
MVM2022-0040	Clio Vossou, Andreas Nakos, Dimitrios Koulocheris: <b>TOPOLOGY OPTIMIZATION OF A MACPHERSON CONTROL ARM</b>
MVM2022-0043	Gordana Tošić, Gordana Bogdanović, Dragan Čukanović, Aleksandar Radaković: <b>FUNCTIONALLY GRADED MATERIALS IN TRANSPORT VEHICLES - OVERVIEW, FABRICATION, APPLICATION, MODELING</b>
MVM2022-0053	Isak Karabegović, Edina Karabegović, Mehmed Mahmić, Ermin Husak: <b>HOW THE CORE TECHNOLOGIES OF INDUSTRY 4.0 ARE CHANGING THE AUTOMOTIVE INDUSTRY IN THE WORLD, WITH A FOCUS ON CHINA</b>
MVM2022-0056	Lyubov Sladkova, Aleksandr Siuzev: <b>ANTI-WHEEL SLIP DEVICES</b>
MVM2022-0017	Momir Drakulic, Lazar Stojnić, Ivan Blagojevic, Aleksandar Đurić, Sreten Peric: <b>DEVELOPMENT OF MATHEMATICAL MODEL FOR DESIGN OF VEHICLE STEERING SYSTEM</b>

# Section C - Vehicle Dynamics and Intelligent Control Systems

**Chairman: prof. D. Miloradović**

Thursday, October 13 <sup>th</sup> , 2022 4:30 pm to 6:30 pm Join Zoom Meeting <a href="https://zoom.us/j/93629666155?pwd=U1ZsYmJHbGtIN3VzVFo0ampsTUFMZz09">https://zoom.us/j/93629666155?pwd=U1ZsYmJHbGtIN3VzVFo0ampsTUFMZz09</a> Meeting ID: 936 2966 6155 Passcode: 366698	
MVM2022-0010	Dragan Ružić: <b>THE ERGONOMIC ASPECTS OF A PASSENGER CAR CLIMATE CONTROL PANEL</b>
MVM2022-0027	Snezana Petković, Valentina Golubović-Bugarski, Gordana Globočki-Lakić, Željko Đurić: <b>INVESTIGATION OF THE PERMITTED LEVEL OF DAMAGE OF VEHICLES SAFETY GLASSES</b>
MVM2022-0028	Slavica Macužić Saveljić, Danijela Miloradović: <b>SIMULATION OF PEDESTRIAN THROW DISTANCE IN THE SOFTWARE PACKAGE PC-CRASH - COMPARISON WITH EXPERIMENT AND THEORY</b>
MVM2022-0030	Slavica Macužić Saveljić, Branko Arsić, Igor Saveljić, Jovanka Lukić: <b>IN-VEHICLE COMFORT ASSESSMENT DURING FORE-AND-AFT RANDOM VIBRATIONS BASED ON ARTIFICIAL NEURAL NETWORKS (ANN)</b>
MVM2022-0035	Dalibor Feher, Dragan Ružić, Stjepan Galamboš, Nebojša Nikolić, Jovan Doric: <b>OPTIMIZATION OF THE AIR DISTRIBUTION SYSTEM IN MOTOR VEHICLE CABIN USING COMPUTATIONAL FLUID DYNAMICS</b>
MVM2022-0039	Franci Pušavec, Janez Kopač, Krsto Mijanović: <b>THE INFLUECE OF STEP SHAPED ROAD SURFACE ON SAFETY WHEN DRIVING IN A BEND ON THE ROAD</b>
MVM2022-004	Slobodan Mišanović, Dragan Taranović, Miloš Maljković, Branko Miličić: <b>MEASUREMENT NOISE LEVEL OF E-BUS HIGER KLQ6125GEV3 ON THE POLYGON</b>
MVM2022-0042	Ioana-Alexandra Rosu, Ioana Diana Buzdugan, Laurentiu Carabulea, Csaba Antonya: <b>SIMULATION OF A PEDESTRIAN COLLISION AVOIDANCE USING THE PEDESTRIAN PROTECTION SYSTEM</b>

## Section D - Driver/Vehicle Interface, Information and Assistance Systems

## Section E - Transport Challenges in Emerging Economies

**Chairman: prof. J. Glišović**

Thursday, October 13 <sup>th</sup> , 2022 4:30 pm to 6:30 pm Join Zoom Meeting <a href="https://zoom.us/j/93540592789?pwd=RkZMVndNeEIZU1A1b1FveGxheDdkQT09">https://zoom.us/j/93540592789?pwd=RkZMVndNeEIZU1A1b1FveGxheDdkQT09</a> Meeting ID: 935 4059 2789 Passcode: 466572	
MVM2022-008	Vase Jordanoska, Vasko Changoski, Darko Danev: <b>COORDINATED CONTROL OF ESC WITH ACTIVE FRONT STEERING AND ACTIVE SUSPENSION NORMAL FORCE CONTROL FOR BETTER VEHICLE'S DYNAMIC RESPONSE</b>
MVM2022-0048	Vasko Changoski, Ile Mircheski, Darko Danev: <b>IMPROVING RIDE COMFORT BY OPTIMISING SUSPENSION SYSTEM OF AN ELECTRIC STREET SWEEPER</b>
MVM2022-0046	Boris Stojic, Aleksandar Poznić: <b>COMPUTATIONAL ASSESSMENT OF LIGHT EXPERIMENTAL HYBRID VEHICLE BRAKING EFFICIENCY</b>
MVM2022-0041	Clio Vossou, IOANNIS KATSAS, Dimitrios Koulocheris: <b>EVALUATION OF THE ROLLOVER THRESHOLD OF TANK VEHICLES</b>
MVM2022-0037	Aleksandar Poznić, Boris Stojić: <b>NUMERICAL SIMULATION OF AN ELECTROMECHANICAL BRAKE AND THE ASSOCIATED DIFFICULTIES</b>
MVM2022-0031	Vasko Changoski, Igor Gjurkov, Vase Jordanoska: <b>IMPROVING VEHICLE DYNAMICS EMPLOYING INDIVIDUAL AND COORDINATED SLIDING MODE CONTROL IN VEHICLE STABILITY, ACTIVE FRONT WHEEL STEERING AND ACTIVE REAR WHEEL STEERING SYSTEMS IN CO-SIMULATION ENVIRONMENT</b>
MVM2022-0013	Ketan Kotecha, Aleksandar Jovanović, Katarina Kukić, Vaishali Dinesh Khairnar, Ana Uzelac, Rahee Walambe, Likhesh Kolhe: <b>THE ECOLOGY-BASED OPTIMIZATION OF TRAFFIC SIGNAL TIMING ON SUPER STREET</b>
MVM2022-0015	Alin Drosu, Corneliu Cofaru, Mihaela Virginia Popescu: <b>INVESTIGATION OF THE SINGLE VEHICLE ACCIDENTS SEVERITY BY USING A PROBABILISTIC APPROACH</b>

## A – Power train technology

### E - Transport Challenges in Emerging Economies

**Chairman: assist. prof. A. Jovanović**

<p>Friday, October 14<sup>th</sup>, 2022 10:00 am to 12:00 am Join Zoom Meeting <a href="https://zoom.us/j/95546900067?pwd=Z0YwUFRLMkVIZmZpUVdtLzVjOG10QT09">https://zoom.us/j/95546900067?pwd=Z0YwUFRLMkVIZmZpUVdtLzVjOG10QT09</a> Meeting ID: 955 4690 0067 Passcode: 423511</p>	
MVM2022-0014	Vanja Sustersic, Vladimir Vukašinović, Dušan Gordić, Mladen Josijević: <b>3D PRINTING OF HYDRODINAMIC COUPLING FOR SCHOOL EDUCATION</b>
MVM2022-0019	Ivan Grujic, Aleksandar Davinic, Nadica Stojanovic, Jovan Doric, Sunny Narayan: <b>THE INFLUENCE OF THE FUEL STRATIFICATION ON THE IC ENGINE WORKING CYCLE WITH THE COMPRESSED NATURAL GAS</b>
MVM2022-0045	Saša Milojević, Slobodan Savić, Radoje Jovanović, Blaža Stojanović, Dušan Arsić, Božidar Krstić: <b>APPLICATION OF LIQUEFIED NATURAL GAS IN MOBILE SYSTEMS</b>
MVM2022-0055	Boris Stojic, Aleksandar Poznić: <b>NOVEL MODULAR POWERTRAIN PROPOSAL FOR E-BICYCLE</b>
MVM2022-0018	Bojana Bošković, Babić Saša, Milosavljević Branimir: <b>USE OF ALTERNATIVE INTERSECTIONS IN ORDER TO IMPROVE TRAFFIC SAFETY</b>

## Section B - Vehicle Design and Manufacturing

## Section D - Driver/Vehicle Interface, Information and Assistance Systems

**Chairman: prof. B. Krstić**

Friday, October 14 <sup>th</sup> , 2022 10:00 am to 12:00 am Join Zoom Meeting <a href="https://zoom.us/j/98156649288?pwd=NS9vNEF6by9jVINVUTJpdWNscmNOQT09">https://zoom.us/j/98156649288?pwd=NS9vNEF6by9jVINVUTJpdWNscmNOQT09</a> Meeting ID: 981 5664 9288 Passcode: 072394	
MVM2022-0020	Nina Busarac, Dragan Adamovic, Nenad Grujović, Fatima Živić: <b>LIGHTWEIGHT MATERIALS FOR AUTOMOBILES</b>
MVM2022-0026	Sonja Kostić, Bogdan Živković, Aleksandra Ivanović, Dragan Džunić, Suzana Petrović Savić, Vladimir Kočović: <b>DEVELOPMENT OF DEVICES FOR TESTING DYNAMIC DURABILITY OF MATERIALS</b>
MVM2022-0034	Slavica Miladinovic, Blaža Stojanović, Sandra Gajević, Lozica Ivanović, Aleksandar Skulić: <b>A REVIEW OF HYPEREUTECTIC ALUMINUM PISTON MATERIALS</b>
MVM2022-0038	Sandra Gajević, Jovana Krstić, Slavica Miladinovic, Blaža Stojanović, Jasmina Blagojević: <b>POLYMER MATRIX NANOCOMPOSITES FROM THE ECOLOGICAL ASPECT IN THE AUTOMOTIVE INDUSTRY</b>
MVM2022-0044	Marko Delić, Vesna Mandić, Filip Pavlović: <b>ANALYSIS OF THE IMPACT OF THE MACHINE ON THE FORGING PROCESS OF A CONNECTING ROD USING NUMERICAL SIMULATION</b>
MVM2022-0050	Miloš Pešić, Nikola Jović, Vladimir Milovanović, Mladen Pantić, Miroslav Živković: <b>FE MESH DENSITY INFLUENCE ON BLAST LOADING ANALYSIS</b>
MVM2022-009	Nadica Stojanovic, Ivan Grujic, Oday I. Abdullah, Ali Belhocine, Jasna Glišović: <b>THE DETERMINATION OF THE DISC BRAKE THERMAL STRESSES FOR DIFFERENT VEHICLE SPEEDS</b>
MVM2022-0024	Saša Vasiljević, Branislav Aleksandrović, Jasna Glišović, Marko Maslač: <b>REGENERATIVE BRAKING ON ELECTRIC VEHICLES: WORKING PRINCIPLES AND BENEFITS OF APPLICATION</b>
MVM2022-0049	Nikola Nešić, Julijana Simonović, Milan Blagojević, Saša Milojević, Srđan Jović: <b>VEHICLE SUSPENSION SYSTEM WITH INTEGRATED INERTER - EXTENDED ANALYSIS</b>

**Friday, October 14<sup>th</sup>, 2022**

**12:00 pm**

Join Zoom Meeting

<https://zoom.us/j/93901995707?pwd=SVJ0Z2NWc281TzY2ZkI2TVBiNmFDUT09>

Meeting ID: 939 0199 5707

Passcode: 584870

Closing of the Congress