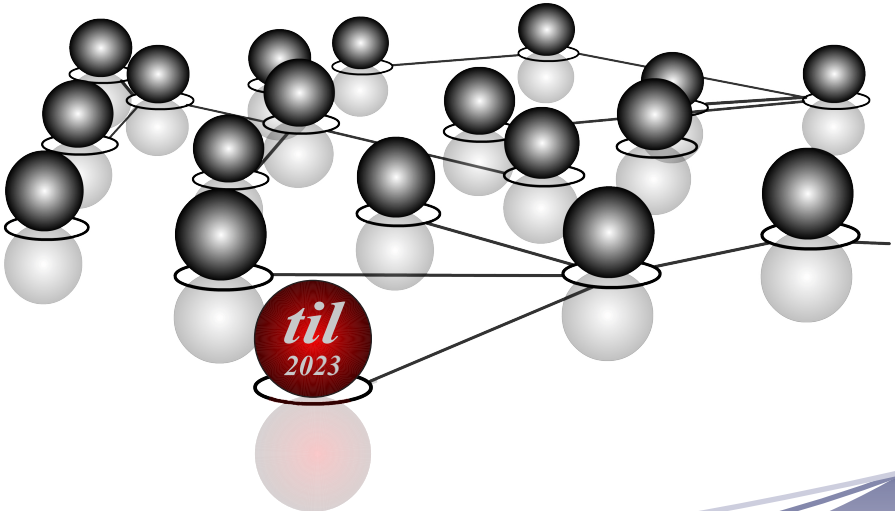


Niš, Serbia 1<sup>st</sup> December 2023

9<sup>th</sup> INTERNATIONAL CONFERENCE

# TRANSPORT & LOGISTICS

warehousing GIS resource GPS goods management  
reliability project management efficient production AHP traffic method supply order flow system  
material flow cranes storage optimisation SCM simulation structural analysis production logistics control shipping mobile machines transportation city logistics vehicle information flow management machines traffic safety control ergonomics and industrial design design organization supply chain distribution lean reverse logistics  
vehicle routing inventory control availability functions warehousing maintenance control simulation production logistics control shipping mobile machines transportation city logistics vehicle information flow management machines traffic safety control ergonomics and industrial design design organization supply chain distribution lean reverse logistics  
VRP E-business operation research



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Asst. Prof. Dr. Vesna Jovanović, Faculty of Mechanical Engineering, University of Niš, SRB,

Mr Saša Marković, Faculty of Mechanical Engineering, University of Niš, SRB,

Asst. Dr. Jovan Pavlović (conference technical secretary), Faculty of Mechanical Engineering, University of Niš, SRB,

Asst. Aleksandar Stanković, Faculty of Mechanical Engineering, University of Niš, SRB,

Asst. Jelena Mihajlović, Faculty of Mechanical Engineering, University of Niš, SRB.

09.00 - 10.00

REGISTRATION OF PARTICIPANTS

Lobby - VI floor

10.00 - 11.30

CONFERENCE OPENING AND PLENARY SESSION

Ceremonious Room - VI floor

CONFERENCE OPENING

**Prof. Dr. Goran JANEVSKI**, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia  
Dean of the Faculty

**Prof. Dr. Vinko JEVTIĆ**, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia  
One of the founders of the conference

**Prof. Dr. Goran Petrović**, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia  
Chairman of the Scientific Committee

PLENARY SESSION

Moderate: **Prof. Dr. Goran PETROVIĆ**  
**Assoc. Prof. Dr. Željko STEVIĆ**

**DEVELOPING THE TOOL FOR ASSESSING RESILIENCE AND SAFETY CLIMATE ASPECTS IN THE TRANSPORT AND MINING COMPANIES**, *Ivan MIHAJLOVIĆ*, Faculty of Mechanical Engineering, University of Belgrade, Serbia, *Željko STEVIĆ*, Faculty of Transport and Traffic Engineering in Doboj, University of East Sarajevo, Bosnia and Herzegovina, *Vesna SPASOJEVIĆ BRKIĆ*, Faculty of Mechanical Engineering, University of Belgrade, Serbia

**MACHINE LEARNING IN INTELLIGENT TRANSPORTATION SYSTEMS FROM THE CONTROL AND ROBOTICS PROSPECTIVE**, *Žarko ČOJBAŠIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia

**OPERATIONAL OPPORTUNITIES FOR REDUCING AIRCRAFT FUEL CONSUMPTION**, *Ljubiša VASOV*, Faculty of Transport and Traffic Engineering, University of Belgrade, Serbia

11.30 - 12.00

COFFEE BREAK

Lobby - VI floor

12.00 - 14.00

SESSION 1 - SMART LOGISTICS SYSTEMS

Ceremonious Room - VI floor

Moderate: **Assoc. Prof. Dr. Predrag MILIĆ**  
**Asst. Prof. Dr. Danijel MARKOVIĆ**

**1.1. AN INTEGRATED ERGONOMIC SIMULATION MODEL OF WORKING POSTURES DURING MANUAL ORDER PICKING IN WAREHOUSES**, *Elena ANGELESKA*, *Anita VASILEVA*, *Kristina JAKIMOVSKA*, *Sofija SIDORENKO*, Faculty of Mechanical Engineering, "Ss Cyril and Methodius" University in Skopje, Republic of North Macedonia

- 1.2. AN ANALYSIS OF PERFORMANCE-BASED LOGISTICS ADVANTAGES USING A POLYTOPIC FUZZY SUBJECTIVE WEIGHTING APPROACH: A CASE STUDY OF MANUFACTURING FIRMS IN ORDU PROVINCE, *Selçuk KORUCUK*, Department of Logistics Management, Giresun University, Turkey, *Ahmet AYTEKİN*, Department of Business Administration, Artvin Çoruh University, Turkey
- 1.3. AN APPLICATION FOR THE PROBLEMS FACED BY BUSINESSES USING E-LOGISTICS: A CASE OF GİRESUN PROVINCE, *Selçuk KORUCUK*, Department of Logistics Management, Giresun University, Turkey, *Ahmet AYTEKİN*, Department of Business Administration, Artvin Çoruh University, Turkey
- 1.4. RESHORING IN ORDER OF MINIMIZING SUPPLY RISK, *Aleksandra ANĐELKOVIĆ*, *Goran MILOVANOVIĆ*, Faculty of Economics, University of Niš, Serbia
- 1.5. ADVANTAGES OF USAGE OF POWER - OPERATED STORAGE EQUIPMENT, *Rodoljub VUJANAC*, *Nenad MILORADOVIĆ*, Faculty of Engineering, University of Kragujevac, Serbia
- 1.6. WESTERN BALKAN COUNTRIES MULTI-CRITERIA EVALUATION: LOGISTICS PERFORMANCE INDEX, *Žarko RAĐENOVIĆ*, Innovation Center University of Niš, Serbia, *Milena RAJIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia
- 1.7. THE USAGE OF ENERGY-EFFICIENT DRONES IN INTELLIGENT, ECO-FRIENDLY TRAFFIC MANAGEMENT, *Vladimir MILOŠEVIĆ*, *Miloš MILOŠEVIĆ*, *Maša MILOŠEVIĆ*, *Aleksandra CVETKOVIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia

12.00 - 14.00

## SESSION 2 - MATERIAL HANDLING EQUIPMENT, CONSTRUCTIONS AND DESIGN ENGINEERING

Room 408 – IV floor

Moderate: **Asst. Prof. Dr. Vesna JOVANOVIĆ**  
**Asst. Dr. Jovan PAVLOVIĆ**

- 2.1. THE PROPER SELECTION OF ELECTRIC MOTORS FOR BRIDGE CRANES, *Atila ZELIĆ*, *Mirko KATONA*, *Dragan ŽIVANIĆ*, *Nikola ILANKOVIĆ*, *Tanasije JOJIĆ*, Faculty of Technical Sciences, University of Novi Sad, Serbia, *László SZABÓ*, Department of Business Information Technology, Budapest Business University, Hungary
- 2.2. OPTIMAL DESIGN OF THE BATTENED BUILT-UP COLUMN OF THE CRANE RUNWAY BEAM, *Goran PAVLOVIĆ*, Faculty of Electronic Engineering, University of Niš, Serbia, *Mile SAVKOVIĆ*, *Nebojša B. ZDRAVKOVIĆ*, *Marko TODOROVIĆ*, *Goran MARKOVIĆ*, Faculty of Mechanical and Civil Engineering in Kraljevo, University of Kragujevac, Serbia
- 2.3. MULTIPLE OPTIMISATION ALGORITHM COMPARISON ON THE HEAVY-WEIGHT LOADING RAMP MECHANISM OPTIMISATION PROBLEM, *Predrag MLADENOVIĆ*, *Marko TODOROVIĆ*, *Goran MARKOVIĆ*, *Nebojša B. ZDRAVKOVIĆ*, *Mile SAVKOVIĆ*, Faculty of Mechanical and Civil Engineering in Kraljevo, University of Kragujevac, Serbia, *Goran PAVLOVIĆ*, Faculty of Electronic Engineering, University of Niš, Serbia

**2.4. ANALYSIS OF DEPTH AND ANGLE OF DIGGING RESISTANCE ON THE STABILITY OF CRAWLER TRACTOR,** *Dubravko STOJANOVIĆ, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia, Momir DRAKULIĆ, Military Academy, University of Defence, Serbia, Jovan PAVLOVIĆ, Vesna JOVANOVIĆ, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia*

**2.5. DESIGN LAYOUT OF PLANETARY GEARBOXES CONTROLLED BY BRAKES ON SINGLE SHAFTS,** *Jelena STEFANOVIĆ-MARINOVIĆ, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia, Sanjin TROHA, Željko VRCAN, Kristina MARKOVIĆ, Faculty of Engineering, University of Rijeka, Croatia*

**2.6. SIMULATION AND ANALYSIS OF THE WHEEL LOADERS WORKING CYCLE,** *Jovan PAVLOVIĆ, Dragoslav JANOŠEVIĆ, Vesna JOVANOVIĆ, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia*

**2.7. EFFICIENCY COMPARISON OF LINE BELT SORTER AND AGV ROBOTS SORTER,** *Saša MARKOVIĆ, Danijel MARKOVIĆ, Nikola PETROVIĆ, Aleksandar STANKOVIĆ, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia*

14.30 - 16.30

**CONFERENCE LUNCH**

*Restaurant Etno kuća Biser – teniski tereni*



17.00 - 19.00

**SESSION 1 - TRAFFIC ENGINEERING, URBAN MOBILITY**

*Ceremonious Room - VI floor*

Moderate: **Prof. Dr. Ljubiša VASOV**  
**Asst. Prof. Dr. Boban NIKOLIĆ**

**3.1. TOWARDS A PAN-EUROPEAN INNOVATION MOBILITY NETWORK: BRIDGING SME NEEDS AND INNOVATION SUPPORT OFFERINGS,** *Marijana PETROVIĆ, Vladislav MARAŠ, Slobodan MITROVIĆ, Faculty of Transport and Traffic Engineering, University of Belgrade, Serbia, Eleni ANOYRKATI, Coventry University Services Ltd, United Kingdom, Elżbieta KSIĄŻEK, Poznan Science and Technology Park, Poland*

- 3.2. BLIND ASSIST INFORMATION SERVICE FOR VISUALLY IMPAIRED PERSONS IN THE TRAFFIC ENVIRONMENT**, *Marko PERIŠA, Petra ZORIĆ, Karlo GAVRILOVIĆ*, Faculty of Transport and Traffic Sciences, University of Zagreb, Croatia
- 3.3. USING DYNAMIC PROGRAMMING TO REDUCE TRAFFIC CONGESTION FROM WORK ZONES IN CITIES**, *Miloš NIKOLIĆ*, Faculty of Transport and Traffic Engineering, University of Belgrade, Serbia, *Dušan TEODOROVIĆ*, Serbian Academy of Sciences and Arts, Serbia
- 3.4. FUTURE TRENDS IN THE DEVELOPMENT OF TRANSPORT AND MOBILITY TECHNOLOGY**, *Mediha AVDIĆ, Mario RADONJIĆ, Marko SUBOTIĆ*, Faculty of Transport and Traffic Engineering in Doboj, University of East Sarajevo, Bosnia and Herzegovina
- 3.5. THE IMPACT OF STABILITY ON THE COMFORT OF MODERN RAILWAY TRANSPORT**, *Vladimir STOJANOVIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia, Faculty of Engineering, Lakehead University, Canada, *Dunja MILIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia, *Momir DRAKULIĆ*, Military Academy, University of Defence, Serbia
- 3.6. HYBRID WASTE COLLECTION SYSTEM**, *Danijel MARKOVIĆ, Lazar NIKOLIĆ, Aleksandar STANKOVIĆ, Saša MARKOVIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia.
- 3.7. THE INFLUENCE OF SOME STANDARDIZED AND NON-STANDARDIZED BIODIESEL CHARACTERISTICS ON FUEL QUALITY AND DIESEL ENGINE PERFORMANCE**, *Boban NIKOLIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia, *Breda KEGL*, Faculty of Mechanical Engineering, University of Maribor, Slovenia, *Saša MILANOVIĆ, Saša MARKOVIĆ, Nikola PETROVIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia.

17.00 - 19.00

## SESSION 4 - PRODUCTION LOGISTICS AND OTHER ASPECTS OF TRANSPORT AND LOGISTICS

Room 408 – IV floor

Moderate: **Prof. Dr. Vladislav BLAGOJEVIĆ**  
**Asst. Prof. Dr. Miloš MADIĆ**

- 4.1. PREDICTION OF MATERIAL DAMAGE ACCORDING TO THE HASHIN CRITERION WHEN A BULLET IMPACTS A COMPOSITE PLATE**, *Jovica TASIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia, *Dragan MARINKOVIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia, Department of Structural Analysis, Technical University of Berlin, Germany, *Dragan PAMUČAR*, Faculty of Organizational Sciences, University of Belgrade, Serbia, School of Engineering and Technology, Sunway University, Malaysia, *Cristiano FRAGASSA*, Department of Industrial Engineering, University of Bologna, Italy
- 4.2. SOLVING SINGLE TOOL HOLE DRILLING PATH OPTIMIZATION PROBLEMS USING EVOLUTIONARY ALGORITHM**, *Miloš MADIĆ, Milan TRIFUNOVIĆ, Aleksandar STANKOVIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia

- 4.3. STOCHASTIC SIMULATION MODEL FOR THE ANALYSIS OF ASSIST GAS COSTS IN CO2 LASER OXYGEN CUTTING**, *Miloš MADIĆ, Saša RANDELOVIĆ, Milan TRIFUNOVIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia
- 4.4. APPLICATION OF DIGITAL SLIDING MODES TO SYNCHRONIZATION OF THE MOVEMENT OF SEVERAL PNEUMATIC RODLESS CYLINDERS**, *Vladislav BLAGOJEVIĆ, Saša RANDELOVIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia
- 4.5. APPLICATION OF STRATEGIES IN THE LOGISTICS OF PRODUCTION**, *Milan STANKOVIĆ, Jovan MIŠIĆ, Aleksandar GOŠIĆ*, Academy of Technical-Educational Vocational Studies Niš, Serbia
- 4.6. APPLICATION OF MACHINE LEARNING IN THE TRAFFIC LIGHT CONTROL**, *Bratislav LUKIĆ, Goran PETROVIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia, *Srdan LJUBOJEVIĆ*, Military Academy, University of Defense, Serbia
- 4.7. A RANDOM MOVING, BACKGROUND GEOMETRY AND EXPECTED VALUE**, *Predrag RAJKOVIĆ*, Faculty of Mechanical Engineering in Niš, University of Niš, Serbia, *Sladana MARINKOVIĆ, Jovan RAJKOVIĆ*, Faculty of Electronic Engineering, University of Niš, Serbia
- 4.8. THE IMPACT OF CITY LOGISTICS ON TRAFFIC AND THE ENVIRONMENT**, *Jovan MIŠIĆ, Milan STANKOVIĆ, Vladimir POPOVIĆ*, Academy of Applied Technical and Preschool Studies, Department in Nis, Serbia

19.00

**CONFERENCE CLOSING**  
Ceremonious Room - VI floor



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**Department of Transport Engineering and Logistics**  
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