UNIVERSITY OF NIŠ
FACULTY OF MECHANICAL ENGINEERING

PROGRAM

RAILCON '26

INTERNATIONAL SCIENTIFIC-EXPERT CONFERENCE ON RAILWAYS

15–16 OCTOBER 2026 · NIŠ, SERBIA

FACULTY OF MECHANICAL ENGINEERING
Aleksandra Medvedeva 14, Niš, Serbia

RAILCON '26

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THURSDAY, 15 October 2026

08:30–10:30	**Registration of participants (Lobby 6th floor)**
10:30–11:00	**Opening Ceremony (Room 611)**
11:00–11:30	**Welcome Cocktail (Lobby 6th floor)**
11:30–13:30	**Plenary Session (Room 611)**

Chairmen: Prof. Aleksandar Miltenović, Prof. Miloš Simonović

PL.1. FROM AUTOMATION TO INTELLIGENT TRAIN CONTROL: AI, DIGITAL TWINS AND TRUSTWORTHY AUTONOMY FOR FUTURE RAILWAYS
Francesco FLAMMINI

PL.2. FROM NODE TO NETWORK: HOW TRANSPORT INTERCHANGES DEFINE THE PATHWAYS TO RAILWAY TRANSFORMATION
Giannis ADAMOS

PL.3. ENHANCING COMPETITIVENESS OF INTERNATIONAL RAILWAY FREIGHT CORRIDORS THROUGH A COOPERATIVE GAME APPROACH
Miroslav PROKIĆ

PL.4. IMPROVING THE RELIABILITY OF RELEVANT RAILWAY SIGNAL DETECTION BY COMBINING ARTIFICIAL INTELLIGENCE AND CLASSICAL COMPUTER VISION METHODS
Aleksandar PETROVIĆ

13:30–15:30	**Break**

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THURSDAY, 15 October 2026

15:30–17:00	Parallel Sessions

15:30–17:00 Session 1 – Rolling Stock

(Room 611)

Chairmen: Prof. Jovan Tanasković, Prof. Milan Banić

1.1. CALCULATION OF SELECTED PARAMETERS OF A SCREW COUPLER AND BUFFERS OF A LOCOMOTIVE SCALED MODEL
Ján DIŽO, Alyona LOVSKA, Miroslav BLATNICKÝ, Martin BUČKO, Marek ZOŠIAK

1.2. A STUDY OF THE STRENGTH OF THE LOAD-BEARING STRUCTURE OF A BOX WAGON WITH CORRUGATED CLADDING SHEETS
Alyona LOVSKA, Juraj GERLICI, Ján DIŽO

1.3. ANALYSIS OF FRICTION COEFFICIENTS OF CERTIFIED COMPOSITE BRAKE BLOCKS IN FREIGHT RAILWAY WAGONS
Saša RADULOVIĆ, Dragan MILKOVIĆ, Goran SIMIĆ, Aleksandra KOSTIĆ MILIČIĆ

1.4. CONCEPTUAL SOLUTION OF A TEST STAND FOR CALIBRATION OF MEASURING RAILWAY WHEELSETS FOR DIFFERENT TRACK GAUGES
Milan BIŽIĆ, Dragan PETROVIĆ

1.5. PASS-BY NOISE ASSESSMENT OF CONTEMPORARY AND LEGACY RAIL VEHICLES ON SERBIAN RAILWAYS
Goran SIMIĆ, Aleksandra KOSTIĆ-MILIČIĆ, Dragan MILKOVIĆ, Saša RADULOVIĆ, Ognjen OBRADOVIĆ

1.6. MODELING AND PREDICTION OF STOCHASTIC VIBRATIONS IN TRAIN OPTICAL DETECTION SYSTEMS
Ivan PAVLOVIĆ, Nikola DESPENIĆ, Milan BANIĆ

15:30–17:00 Session 4 – Vehicle and Infrastructure Maintenance/ Other Railway Aspects

(Room 401)

Chairmen: Prof. Giannis Adamos, Prof. Miloš Milošević

4.1. SMART RAIL VEHICLE MONITORING: A STUDY OF CNN ARCHITECTURES
Marko PERIĆ, Aleksandar MILTENOVIĆ, Emina PETROVIĆ, Damjan RANGELOV, Saša PAVLOVIĆ

4.2. A REVIEW OF WHEEL INSPECTION DEVICES AND CONDITION MONITORING SYSTEMS FOR RAILWAY VEHICLES
Damjan RANGELOV, Aleksandar MILTENOVIĆ, Marko PERIĆ, Dušan STAMENKOVIĆ, Sanel PURGIĆ

6.1. APPLICATION OF PHYSICS AI IN RAILWAY VEHICLE DESIGN – A REVIEW
Nađa BRADIĆ, Aleksandar MILTENOVIĆ, Danijela RISTIĆ-DURRANT, Miloš SIMONOVIĆ, Miloš BOJIĆ

6.2. OPERATIONAL VALIDATION OF SPACE-ENABLED RAIL BUCKLING RISK MONITORING IN THE SPATRA RAILWAY PILOT
Danijela RISTIĆ-DURRANT, Milan BANIĆ, Alina KLAPPER, Dietrich KUHN, Miloš SIMONOVIĆ, Miloš MADIĆ, Milan TRIFUNOVIĆ

6.3. MANAGEMENT OF AI SMART MONITORING IN RAILWAY SYSTEMS: A SYSTEMATIC REVIEW OF PREDICTIVE MAINTENANCE, RISK-INFORMED DECISION SUPPORT, AND OPERATIONAL RESILIENCE
Milena RAJIĆ, Giannis ADAMOS, Milan BANIĆ, Marko PERIĆ, Argyrios BALATSOUKAS

6.4. FROM RAILWAYS ACT 1993 TO GREAT BRITISH RAILWAYS: EVOLUTION OF UK RAIL REFORM AND RETURN TO PUBLIC OWNERSHIP (1993–2026)
Aleksandar BLAGOJEVIĆ *[Serbian]*

17:00–17:30	Coffee Break (Lobby 6th floor)

17:30–19:00	Meeting of the founding members (Room 611)

Association for the Scientific and Industrial Development of Railway Mechanical Engineering and Transport

20:00	Conference Dinner (Tami Residence)

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FRIDAY, 16 October 2026

08:30–10:00	Parallel Sessions

08:30–10:00 Session 2 – Traffic and Transport/Strategy and policy

(Room 611)

Chairmen: Prof. Predrag Jovanović, Prof. Branislav Bošković

2.1. ASSESSMENT OF RESIDUAL CAPACITY OF SINGLE-TRACK LINES FROM SIMULATION USING UIC 406 COMPRESSION
Andreas SCHÖBEL

2.2. COST-MINIMIZING TRAIN PATH MANAGEMENT: CURRENT AND PROPOSED CALCULATION METHOD
Nemanja TOŠIĆ, Predrag JOVANOVIĆ, Dragana MACURA

2.3. APPLICATION OF MATHEMATICAL MODELS IN RAILWAY WASTE MANAGEMENT SYSTEMS
Nikola RISTIĆ, Predrag JOVANOVIĆ

2.4. APPLICATION OF ARTIFICIAL INTELLIGENCE IN SINGLE WAGON LOAD (SWL) OPTIMIZATION OPERATIONAL MODEL FOR RAILWAYS OF REPUBLIKA SRPSKA
Marko PAVLOVIĆ, Zoran GAJIĆ, Snježana CVIJANOVIĆ

5.1. THE MISSING INSTITUTION IN EUROPEAN RAIL FREIGHT CORRIDOR GOVERNANCE: LESSONS FROM AVIATION AND ELECTRICITY
Miroslav PROKIĆ, Branislav BOŠKOVIĆ

5.2. BALANCING CAPACITY, FLEXIBILITY AND RESILIENCE: LESSONS FROM AUTOMATED METRO SYSTEMS FOR FUTURE RAILWAYS
Mirjana BUGARINOVIĆ, Tihomir SUBOTIĆ, Branislav BOŠKOVIĆ

5.3. INTERMODAL RAIL-AIR TRAVEL – RECOMMENDED FUTURE SERVICES
Bernhard RÜGER, Jan HERBST

08:30–10:00 Session 3 – Infrastructure

(Room 401)

Chairmen: Prof. Ján Dižo, Doc. Vukašin Pavlović

3.1. LOWCOST ELECTRONIC INTERLOCKING SYSTEM FOR THE RAILWAY STATION ELEMIR
Dejan LUTOVAC, Tatjana LUTOVAC, Ana LUTOVAC

3.2. SUPERSTRUCTURE MODERNIZATION OF THE HEAVY GANTRY CRANE TRACK IN TPP REK BITOLA
Ivona NEDEVSKA TRAJKOVA, Riste RISTOV, Vasko GACEVSKI

3.3. COMPARATIVE ANALYSIS OF TRACK QUALITY INDEX CALCULATION METHODOLOGIES USING REAL GEOMETRY DATA
Ivona NEDEVSKA TRAJKOVA, Zlatko ZAFIROVSKI, Jelena DIMITRIJEVIĆ, Nenad PETRESKI

3.4. WELDING OF COGIDUR BLOCKS (1.8715 GROUP 3.2) WITH SELF-SHIELDING WIRE-PROCESS 114
Mladen MITIĆ, Đorđe HADŽI-ĐOKIĆ, Miroslav MIJAJLOVIĆ, Dragan MITIĆ

3.5. TGPS+ MONITORING OF GOODS FLOWS AND PREPARATION OF DOCUMENTS IN RAILWAY GOODS TRAFFIC
Zoran STOŠIĆ, Jovan STOŠIĆ, Života ĐORĐEVIĆ

10:00–10:30	Coffee Break (Lobby 6th floor)

10:00–10:30	Poster Presentation / Coffee Break (Lobby 6th floor)

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P.1. FRICTION STIR WELDING OF ALUMINIUM ROOF PANELS FOR METRO VEHICLES
Miodrag MILČIĆ, Petar LJUŠIĆ, Branko SPASIĆ, Dragan MILČIĆ, Nataša ZDRAVKOVIĆ

P.2. IMPACT OF OPERATIONAL DISRUPTIONS ON QUALITY INDICATORS IN SOFIA METRO UNDER DIFFERENT LEVELS OF AUTOMATION
Mirena TODOROVA, Violina VELYOVA, Zlatin TRENDAFILOV, Aleksander GEORGIEV

P.3. MODERNIZATION OF RAILWAY VEHICLE MAINTENANCE WORKSHOPS AT ŽRS A.D. DOBOJ
Biljana SIMIĆ, Gordana ILINČIĆ, Boro MANJIĆ

P.4. METAHEURISTIC OPTIMIZATION OF RESOURCE PLANNING AND BUSINESS PROCESS MANAGEMENT IN RAILWAY TRANSPORT
Irena PETROVA, Kostadin TRIFONOV

P.5. BATTERY POWERED TRAINS FOR CROATIAN RAILWAYS
Dominik GLAVINA, Marina BOMEŠTAR GAŠPARIĆ

P.6. SAFETY ASPECTS OF RAILWAY VEHICLE MAINTENANCE PLANS WITHIN THE EUROPEAN REGULATORY FRAMEWORK
Marija VUKŠIĆ POPOVIĆ, Aleksandar BLAGOJEVIĆ, Jovan TANASKOVIĆ, Marko MARIČIĆ, Dragan RAJOVIĆ

P.7. FREIGHT WAGON FAILURES AS A BASIS FOR SAFETY-ORIENTED MAINTENANCE MANAGEMENT UNDER EUROPEAN RAILWAY REGULATIONS
Marija VUKŠIĆ POPOVIĆ, Aleksandar BLAGOJEVIĆ, Srđan STOJIČIĆ, Jevrem ROGIĆ, Dušan VUJOVIĆ

P.8. EXPERIMENTAL RESERACH OF CHARACTERICS OF RIGID POLYURETHANE FOAM FOR KINETIC COLLISION ABSORPTION SYSTEMS - OGDEN MATERIAL MODEL
Jovan TANASKOVIĆ, Francis FRANKLIN, William NIGHTINGALE

P.9. ENERGY HARVESTING TECHNOLOGIES FOR RAILWAY SENSOR SYSTEMS: A COMPARATIVE ANALYSIS BY APPLICATION AND DEPLOYMENT LOCATION
Anđela TONČEV, Teodor ĐORĐEVIĆ, Vukašin PAVLOVIĆ, Aleksandra CVETKOVIĆ, Miloš MILOŠEVIĆ

P.10. PIEZOELECTRIC ENERGY HARVESTERS FOR RAILWAY TRACK VIBRATIONS: A REVIEW OF STRUCTURAL DESIGNS AND PERFORMANCE ENHANCEMENT STRATEGIES
Teodor ĐORĐEVIĆ, Anđela TONČEV, Nenad T. PAVLOVIĆ, Aleksandra CVETKOVIĆ, Miloš MILOŠEVIĆ

10:30–11:30	Session 7 – The Graduates and the Future of Railway (Room 611)

Chairmen: Prof. Dušan Stamenković, Prof. Milan Bižić

7.1. FAILURE ANALYSIS OF TYPE R FREIGHT WAGONS ON THE SERBIAN RAILWAY NETWORK
Dragana PANIĆ, Jovan TANASKOVIĆ

7.2. ANALYSIS OF FAILURES OF TYPE "Z" FREIGHT WAGONS ON SERBIAN RAILWAYS
Jovana IVANOVIĆ, Jovan TANASKOVIĆ

7.3. FAILURE ANALYSIS AND AVAILABILITY ASSESSMENT OF STADLER FLIRT EMU 413/417 TRAINS IN SERBIA
Katarina HRISTODULU, Jovan TANASKOVIĆ

7.4. FAILURE ANALYSIS OF H-SERIES FREIGHT WAGONS ON THE RAILWAY NETWORK OF THE REPUBLIC OF SERBIA
Milica ANDRIĆ, Jovan TANASKOVIĆ

7.5. ANALYSIS OF FAILURES OF TYPE "E" FREIGHT WAGONS ON SERBIAN RAILWAYS
Zoran JOVICIĆ, Jovan TANASKOVIĆ

7.6. AI-BASED REAL-TIME TRANSLATION OF RAILWAY ANNOUNCEMENTS: ACCESSIBILITY AND CYBERSECURITY
Kamila MATUSIK, Francesco FLAMMINI

11:30–12:00	Conference Closing (Room 611)