# MHCL 2026

XXVI INTERNATIONAL CONFERENCE ON
MATERIAL HANDLING, CONSTRUCTIONS AND LOGISTICS
September 23 – 25, 2026 • Belgrade, Serbia

50 YEARS
OF EXCELLENCE
1976 – 2026

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# DETAILED PROGRAMME

## WEDNESDAY, SEPTEMBER 23, 2026

CEREMONIAL HALL (ROOM 211), 2nd FLOOR
Chairmen: Prof. Nenad Zrnić and Prof. Georg Kartnig

### PLENARY SESSION

| Time | Programme |
|---|---|
| **13:00 – 14:00** | **Registration of Participants** |
| **14:00 – 14:15** | **Opening Session** |
| **14:20 – 14:50** | **William E. Singhose**<br>Tragedy to Triumph: How a Fatal Crane Accident Launched a Center for Crane Safety Research |
| **14:50 – 15:20** | **Damian Pietrusiak, Przemysław Moczko**<br>In-Situ Resources Utilization – Materials Handling, Construction and Manufacturing in Space |
| **15:20 – 15:50** | **Coffee Break** |
| **15:50 – 16:20** | **Michael Eder**<br>Toward a Performance Evaluation Framework for Automated Warehouse Systems: From Crane-Based AS/RS to Shuttle and Robot-Based Architectures |
| **16:20 – 16:50** | **Jana Jost, Sophia Ripplinger, Manav Thakkar**<br>Humans Optional? Robotics, Humanoids, and the Future of Logistics Work |
| **17:00 – 18:30** | **Welcome Party** |

All presentations in the Plenary Session on Wednesday are **invited lectures.**

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## THURSDAY, SEPTEMBER 24, 2026

CEREMONIAL HALL (ROOM 211), 2nd FLOOR

| SESSION A | Hoisting and Conveying Equipment and Technologies | Chairmen: Prof. Boris Jerman, Prof. Christian Landschützer |
|---|---|---|
| **Time** | **Authors** | **Title** |
| **08:30 – 09:00** | **Late / On-site Registration of Participants** | |
| 09:00 – 09:15 | A. Vasileva Ljubotenska et al. | Validation of Numerical Models of an Overhead Crane Through Experimental Dynamic Testing |
| 09:15 – 09:30 | D. Ritter et al. | Simulation-Based Oscillation Analysis of Stacker Cranes: A Pragmatic Approach to Reducing Conservative Load Assumptions |
| 09:30 – 09:45 | X. Liu et al. | Dynamic Analysis and Optimization of a 6-DOF Shipborne Gantry Crane for Ship-to-Ship Cargo Transfer |
| 09:45 – 10:00 | E. Harkonen et al. | Multi-Cable Configuration Detection for Crane Cable Angle Estimation |
| 10:00 – 10:15 | T. J. Rome et al. | Impact of Insert-Sleeve Contact on Tower Crane Disassembly Forces |
| 10:15 – 10:30 | M. Li et al. | Investigation into Belt Deviation under Asymmetric Loading Using MBD-DEM Coupled Simulations |
| **10:30 – 11:00** | **Coffee Break** | |
| 11:00 – 11:15 | J. Müller et al. | Toward Force-Referenced Strain Monitoring of Conveyor Belts During Operation |
| 11:15 – 11:30 | K. Skoff, M. Prenner | Experimental and Numerical Investigation of Particle Degradation to Promote Safer Handling of Direct Reduced Iron |

| SESSION B | Constructions, Design Engineering, Mining Equipment and Technologies | Chairmen: Prof. Vlada Gašić, Prof. Damian Pietrusiak |
|---|---|---|
| **Time** | **Authors** | **Title** |
| 11:30 – 11:45 | P. Moczko et al. | Reassessing Fatigue Life in Heavy Mining Machinery: The Impact of Dynamic Loads on Undercarriage Structures |
| 11:45 – 12:00 | S. M. Bošnjak et al. | Corrective Mass Method: Case Study of Static Stability of the Bucket Wheel Excavator SchRs 1760 |
| 12:00 – 12:15 | N. B. Gnjatović et al. | Assessment of Different Approaches to Strength Analysis of the Excavating Device of a Bucket Wheel Excavator |
| 12:15 – 12:30 | P. Moczko | The Next Life of Mines: Repurposing Post-Mining Areas for Energy Storage |
| **12:30 – 14:00** | **Lunch** | |

| SESSION B | Constructions, Design Engineering, Mining Equipment and Technologies (continued) | Chairmen: Prof. Vlada Gašić, Prof. Damian Pietrusiak |
|---|---|---|
| **Time** | **Authors** | **Title** |
| 14:00 – 14:15 | J. Reisinger et al. | Simulation Model of the Hydraulic Drive System of a Timber Loader Crane |
| 14:15 – 14:30 | M. Motaln et al. | DEM-Based Analysis and Redesign of a Wood-Chip Discharge Rotor in a Biomass Production Machine |
| 14:30 – 14:45 | L. Solazzi et al. | Design of Crane Arm Sections Using Meta-Heuristic Algorithms |
| 14:45 – 15:00 | V. Gašić et al. | Redesign of a Monorail Runway Beam with Horizontally Curved Segments: A Case Study |
| 15:00 – 15:15 | S. Bulatović et al. | Stop-Hole Drilling Technique to Repair and Stop the Propagation of Fatigue Cracks in a Steel Bridge |
| 15:15 – 15:30 | A. Arsić et al. | Environmental Corrosion of Steel Structures: A Review of Its Effects on Load-Carrying Capacity and Structural Stability |
| **15:30 – 16:00** | **Coffee Break** | |

| SESSION B | Constructions, Design Engineering, Mining Equipment and Technologies (continued) | Chairmen: Prof. Vlada Gašić, Prof. Damian Pietrusiak |
|---|---|---|
| **Time** | **Authors** | **Title** |
| 16:00 – 16:15 | B. Jerman et al. | Review of Recent Trends in 3D Concrete Printing |
| 16:15 – 16:30 | M. Jerman et al. | CFD-Based Screening of Concrete-Printing Nozzle Geometries |
| 16:30 – 16:45 | T. Jojić et al. | Experimental Measurements on Zipline Systems Necessary for Adequate Determination of the Kinematic Characteristics of Riders |
| 16:45 – 17:00 | M. Todorović et al. | Gravity Compensation in Acceleration Measurements Using MPU 6050 6-Axis Accelerometer |
| 17:00 – 17:15 | N. Gjerasimovska et al. | Optimization of Combined Cycle Cogeneration Power Plants for Industrial Energy Supply and Sustainable Infrastructure Systems |
| **19:30 – 22:30** | **Conference Dinner** | |

All presentations on Thursday belong to **Session A** or **Session B**.
The authors of accepted papers are kindly requested to keep their presentations within the allocated time slots.

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## FRIDAY, SEPTEMBER 25, 2026

CEREMONIAL HALL (ROOM 211), 2nd FLOOR

**SESSION C** Logistics and Intralogistics Systems — Chairmen: Prof. Tone Lerher and Prof. Michael Eder

| Time | Authors | Title |
|---|---|---|
| 09:30 – 09:45 | M. Katz, M. Eder, G. Kartnig | Analytical Throughput Modeling of a Tier-to-Tier SBS/RS |
| 09:45 – 10:00 | S. Schaffer, P. Sereda, M. Eder, G. Kartnig | Equilibrium, Convergence, and Limits of Passive Self-Sorting in RCS/RS: A Closed-Form Move-to-Front Analysis |
| 10:00 – 10:15 | S. Koehler, Z. Seibold | The Hare and the Tortoise of Automation: Design Principles for Robotic Picking in Picker-To-Parts-Systems |
| 10:15 – 10:30 | M. Walz, T. Lehmann | On the Need for Lifting AGVs to the Next Level: A Review on Multi-Floor Automated Transport Systems |
| **10:30 – 11:00** | **Coffee Break** | |
| 11:00 – 11:15 | M. Schadler, N. Hafner, C. Landschützer | 'indicAlte': An Integrated Machine Learning Framework for Condition Monitoring of Conveyor Systems |
| 11:15 – 11:30 | A. Ortner-Pichler et al. | Automated Design of Material Handling Equipment: A DSM-Supported KBE Approach Navigating toward the Digital Engineering Workplace |
| 11:30 – 11:45 | G. Hren et al. | Framework for Digital Twin-Based 3D Visualization of Warehouse Processes |
| 11:45 – 12:00 | Ö. F. Görçün, C. N. Durmuş, M. Çanakçıoğlu | A Novel Multicriteria Decision-Making Approach for Evaluating Auditing Systems in the Logistics Industry |
| **12:00 – 12:15** | **Closing Ceremony** | |
| | | |
| **12:30 – 14:00** | **Lunch** | |
| **16:00 – 18:00** | Organized Visit to the Palace of Science<br>Location: Kralja Milana 11, 11000 Belgrade, Serbia<br>The Palace of Science combines scientific research with interactive exhibitions, offering visitors an engaging insight into science, technology and innovation. | |