

MTSM 2025
Conference venue:
Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture –
Amphitheatre B402 and B401

FINAL CONFERENCE SCHEDULE

Wednesday, 17th September 2025

18.30 – 19.00 **Participant registration, at the registration desk in the Faculty Atrium (ground floor)**
(Amanda Aljinović Meštrović, Karla Antunović)

19.00 – 22.00 **Welcome drinks and finger food**
(Jure Krolo, Marina Crnjac Žižić)

Thursday, 18th September 2025

08.30 – 09.00 **Participant registration, at the registration desk in front of the Amphitheatre B401**
(Amanda Aljinović Meštrović, Karla Antunović)

09.00 – 09.10 **Welcome address**
(Jure Krolo, Marina Crnjac Žižić)

SESSION I – B402
Chairmen: Massimo Rogante, Jure Krolo

Company presentations:

09:10 – 09:25 – TOPOMATIKA d.o.o. - **Luka Kurtalj**

09:25 – 09:40 – Eurotehnika d.o.o. - **Tomislav Tucman**

09:40 – 09:55 – Ansar-Analitika d.o.o. - **Krešo Mesarek**

Keynote speakers:

09:55 – 10:25 – Numerical simulations and microstructural evolution of Al0.35CoCrFeNi high-entropy alloy under hot forging processes, **Michaela Štamborska Ph.D.**

10:25 – 10:55 – Thermal challenges in semiconductor industry and potential solutions space, **Jelena Čulić- Viskota Ph.D.**

Presentations:

10:55 **Francisko Lukša**, Željko Domazet and Đorđe Dobrota
Impact of caliber height reduction on roll fatigue life

11:10 **Igor Ciganović**, Zdenka Keran, Petar Piljek, Andrej Razumić and Davor Juric
Accuracy and Efficiency Optimization- Mass Scaling Effects in ECAP Process Simulations

11:25 **Coffee break – 35 minutes**

SESSION II – B402
PRESENTATIONS
Chairmen: Jaroslav Jerz, Ivan Peko

- 12:00 **Francisko Lukša**, Željko Domazet, Đorđe Dobrota and Branko Lalić
Failure analysis of scrap shear knives
- 12:15 **Sven Maricic** and Dario Iljkić
Optimizing Additive Manufacturing Processes for High-Performance Mechanical Components using AI-driven Parameter Prediction and Virtual Reality Simulation
- 12:30 **Franjo Kozina**, Zdenka Zovko Brodarac, Matea Kuprešak and Mitja Petrič
Simulation of irradiation-induced damage in Al-Mg-Li alloys
- 12:45 **Luka Mesek**, Zdenka Zovko Brodarac, Mitja Petrič, Desimir Bobinac
Investigation of the quality of EN GJS 400-15 ductile cast iron
- 13:00 Josip Kos, **Luka Kurtalj**, Maximilian Hercigonja, Vedran Starčević, Tomislav Hercigonja
Practical examples of the correct selection of 3D measurement technology for modern production processes
- 13:15 **Massimo Rogante**
Structural and operational dynamics of small-to-medium cast-iron foundries in Italy: a 2025 perspective



13:30 Lunch – “Kampus” restaurant (1st floor)

Restaurant “Kampus” location:

15:00 Free time



20:00 Dinner – “Gusar” restaurant

Restaurant “Gusar” location:

Friday, 19th September 2025

SESSION I – B402
Chairmen: Michaela Štamborska, Amanda Aljinović Meštović

Company presentations:

- 09:00 – 09:15 – BELMET 97 d.o.o. - **Mario Kassabji**
- 09:15 – 09:30 – Mjerne tehnologije d.o.o. - **Igor Zdrahal**
- 09:30 – 09:45 – Anton Paar d.o.o - **Nikola Šebalj**

Presentations:

- 09:45 **Marko Mladineo**, **Pol Menou** and Mate Buzov
Design of the reconfigurable workstation for collaborative robot Franka

- 10:00 **Petar Ljumović**, Petar Bronić, Ivana Radić Boršić, Ivan Rogan
Production line of migrating corrosion inhibitors for the protection of steel reinforcement systems
- 10:15 **Anđela Rohtek**, Nikša Čatipović, Željko Penga, Jure Penga, Mišo Jurčević, Petra Bagavac
Characterization of bipolar plates for hydrogen fuel cells manufactured using additive manufacturing technology

POSTER SESSION
In front of B402

10:30 Coffee break and poster sessions – 60 minutes

SESSION II – B401
PRESENTATIONS + COMPANY WORKSHOP
Chairmen: Amra Talić-Čikmiš, Nikša Čatipović

- 11:30 **Massimo Rogante**, Luigi Arcangeli
Feasibility study for damage analysis of a hip prosthesis made of Ti6Al7Nb alloy
- 11:45 **Jaroslav Jerz** and Jaroslav Kováčik
High Density Aluminium Foam Based Heat Exchangers
- 12:00 **Damir Juric**, Nikša Čatipović, Ivan Peko, Jure Krolo, Matej Kljajo, Karla Antunović, Karla Kunac, Angelo Oñate, Víctor Tuninetti
Multi-Objective Optimization of Thermally Sprayed CrNiMo Coatings on Titanium Substrates: Influence of Spray Distance and Layer Count on Mechanical Properties Using Desirability Analysis

COMPANY WORKSHOP

12:15 - 13:15 - Company **BELMET 97 d.o.o.** workshop*

*Workshops information will be at the end of this schedule

13:15 Conference closing speech

13:30 Lunch – “Kampus” restaurant (1st floor)

Restaurant “Kampus” location:



POSTER PRESENTATIONS LIST

1. **Matej Kljajo**, Ladislav Vrsalović, Senka Gudić, Nikša Čatipović, Ivan Peko, Ante Bilušić, Petar Ljumović, Danijel Šogorović
Process errors and problems in adhesion of magnetron sputtered platinum coatings
2. **Amra Talić-Čikmiš**, Kenan Šabanović and Aida Imamović
Comparison of the results of the optimized and original polyamide support of the crane control system and experimental testing
3. **Derzija Begić-Hajdarevic**, Simon Klancnik, Maida Cohodar Husic, Kristijan Sket, Kenan Muhamedagic, Edin Begovic and Mirko Ficko
Multi-objective optimization of process parameters in fiber laser cutting of aluminium alloy

4. **Ladislav Vrsalović**, Senka Gudić, Nediljka Vukojević Medvidović, Sandra Svilović, Mario Nikola Mužek
Electrocoagulation and hybrid electrocoagulation for wastewater treatment: strength, challenges and future prospects
5. **Mirko Gojić**, Stjepan Kožuh, Ivana Ivanić, Daniela Dumenčić, Ivica Garašić Borut Kosec, Aleš Nagode
Microstructural analysis of Cu-Al-Mn shape memory alloy before and after TIG welding
6. **Jure Krolo**, Aleš Nagode, Matej Kljajo, Nikša Čatipović, Damir Jurić and Ivan Peko
Tribological and microstructural characterization of thermal-sprayed Cr-Ni-Mo coatings on stainless steel
7. **Nikola Gjeldum**, Boženko Bilić, Marko Mladineo, Marina Crnjac Žižić and Amanda Aljinović Meštrović
Evaluation of the self-study modules developed in ExCurS project
8. **Aida Imamović**, Mirsada Oruč, Milenko Rimac, Gorazd Kosec, Amra Talić-Čikmiš
The cause of the precocious fracture of the samples during the dynamic strength test of the wear-resistant steel
9. **Elvis Krulčić**, Sandro Doboviček, Duško Pavletić and Goran Cukor
Integration of agile methods and Lean Six Sigma approach in improving the quality of manufacturing processes
10. **Maida Cohodar Husic**, Kenan Muhamedagic, Ahmet Cekic, Derzija Begic-Hajdarevic
Research Potential and Development of a Simscape Multibody-based Dynamic Model of Collaborative Robot
11. **Dario Kvirgić**, Graciela Šterpin Valić, Tea Marohnić, Robert Basan and Goran Cukor
Effect of Cooling Methods on the Surface Chemistry and Corrosion Performance of X2CrNiMo17-12-2 Austenitic Stainless Steel
12. Sabahudin Ekinović, Edin Begović, **Adnan Mustafić** and Mario Dragičević
Experimental and mathematical modelling of surface integrity indicators during the turning of X5CrNi18-10 steel using an advanced MQLC system
13. **Andrej Bašić**, Ivan Peko, Ivan Jerković
Integrative Approach to Evaluating the Quality of 3D Printed Cultural Artifacts: Multicriteria Analysis and Human Perception Using the AHP Method
14. **Mihael Holi**
Digital Twin-Enhanced Virtual Laboratories for Advanced Manufacturing Education: A Comparative Analysis of Development Platforms
15. **Malik Čabaravdić**, Amer Sarajlić and Amra Talić-Čikmiš
PLC-Controlled Manufacturing Line with Multi-Robot Integration and Computer Vision
16. **Quentin Dos Santos Silva**, Paul Adde
Integrating virtual reality in drone education: a gateway to scientific exploration and skill development
17. Milena Biserova, Rosen Petrov, **Nikolay Stoimenov**, Mira Tzvetkova-Arsova, Margarita Tomova
Accessible Entertainment and Socialization Opportunities for Blind People: Technologies, Challenges, and Innovations

18. Rosen Petrov, Milena Biserova, Aleksander Vulkov and **Nikolay Stoimenov**
Improving chairlift operations with safety measures, technological innovations, and efficiency optimization
19. Olga Kushnarova, Olena Berdnikova, Igor Alekseienco, Valeriy Pozniakov, Aleksandr Gaivoronskiy, **Anatoliy Zavdoveev**, Massimo Rogante
Influence of surface high-frequency mechanical forging on the structure of welded joints of structural steel
20. Olga Kushnarova, Olena Berdnikova, Tetyana Alekseienco, Svitlana Grigorenko, Valeriy Pozniakov, Aleksandr Gaivoronskiy, **Anatoliy Zavdoveev**, Massimo Rogante
Structural features of welded joints of special-purpose steel with increasing number of fatigue load cycles
21. **Lyudmila Nyrkova**, Osadchuk S.O., Goncharenko L.V., Bratochkin O. V.
Stress-corrosion cracking of X70 steel for main pipelines in different corrosivity environments at cathodic polarization

COMPANY WORKSHOPS INFORMATION

* Company **BELMET 97 d.o.o.** workshop

Hands-On Workshop: Materials & Structural Testing

Join Belmet97 for an interactive workshop where materials and structures come to life.

You'll perform tensile, compression and bending tests to see stress-strain behaviour in action, then build and load truss models to explore how forces travel through members, compare with calculations, and test your own intuition.

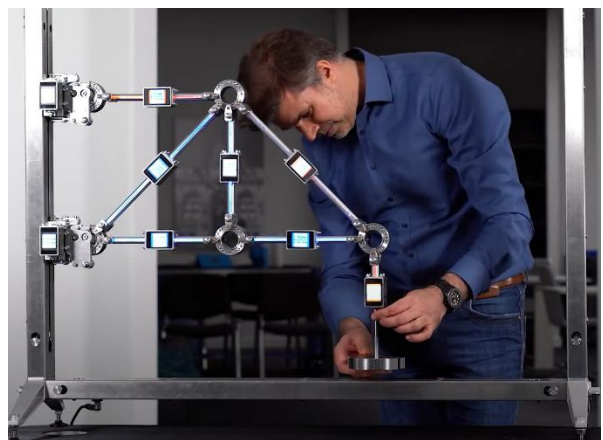
Expect short guided exercises, space for your own structural ideas, and one-on-one support from our specialists that make the session engaging and practical.

Using proven G.U.N.T. teaching equipment, you'll get clear, reproducible results that are easy to analyze. Perfect for students, lecturers and lab staff — and professors will find ready-to-use demos and datasets for their courses.

Come experiment, ask questions, and enjoy learning by doing. Company **BELMET 97 d.o.o.** workshop information will be included in the final conference program.



G.U.N.T. WP 300 Materials testing, 20kN



G.U.N.T. SE 200.01 MEC - Forces in trusses