

AKADEMIJA NAUKA I UMJETNOSTI BOSNE I HERCEGOVINE
АКАДЕМИЈА НАУКА И УМЈЕТНОСТИ БОСНЕ И ХЕРЦЕГОВИНЕ
ACADEMY OF SCIENCES AND ARTS OF BOSNIA AND HERZEGOVINA

4th International Scientific Conference

INDUSTRY OF THE FUTURE: FROM INDUSTRY 4.0 TO INDUSTRY 5.0

Integration of Humans and Technology

CONFERENCE PROGRAM

October 2–3, 2025
Academy of Sciences and Arts of Bosnia and Herzegovina,
Bistrik 7, Sarajevo



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Department of Technical Sciences

4th International Scientific Conference

INDUSTRY OF THE FUTURE: FROM INDUSTRY 4.0 TO INDUSTRY 5.0 - Integration of technology and people

CONFERENCE PROGRAM

2nd–3rd October 2025
Sarajevo, Bosnia and Herzegovina

CONFERENCE PROGRAM

Thursday, 2nd October 2025
Registration of participants and Welcome drink 18.00 h
Hall ANUBiH, Bistrik 7, Sarajevo

Friday, 3rd October 2025
Registration of participants
8:30–9:30 h
Hall ***ANUBiH, Bistrik 7, Sarajevo***

Opening Conference
INDUSTRY OF THE FUTURE: FROM INDUSTRY 4.0 TO INDUSTRY 5.0 - Integration of technology and people

Welcoming speech
Hall ***ANUBiH, Bistrik 7, Sarajevo***
9:30–9:45 h

***Moderators**: Prof. Isak Karabegović, PhD; Prof. Lejla Banjanović–Mehmedović, PhD; Prof. Sead Pašić, PhD; Prof. Samir Lemeš, PhD; Prof. Safet Isić, PhD*
***Secretary**: Prof. Samir Vojić, PhD; Prof. Amra Bratovčić, PhD;*
Prof. Mirha Bičo Ćar, PhD

9:45 *INTEGRATION OF ROBOTIC TECHNOLOGY AND HUMAN CREATIVITY: FROM AUTOMATION TO HUMANIZATION*
Isak Karabegović, Ermin Husak, Samir Vojić, Edina Karabegović, Mehmed Mahmić

10:00 *COGNITIVE AND VISUAL-MOTOR ROBOTIC MANIPULATION IN INDUSTRIAL ENVIRONMENTS: A PUZZLE ASSEMBLY PARADIGM*
Aleksandar Rodić, Jelena Ilić, Natalija Dimitrijević, Aleksandar Milenković

10:15 *TOWARDS A SMART MAINTENANCE MODEL*
Vidosav Majstorovic, Vladimir Simeunovic, Dragan Stosic, Sonja Dimitrijevic, Filip Todorovic

10:30 *ENHANCING HUMAN-ROBOT COLLABORATION THROUGH MULTIMODAL DATA AND ROBOT LEARNING IN HUMAN-CENTERED INDUSTRY 5.0 SYSTEMS*
Lejla Banjanović-Mehmedović

10:45 *"TEXT TO 3D MODEL" ARTIFICIAL INTELLIGENCE (AI) AND ADDITIVE MANUFACTURING (AM) IN THE FIELD OF PRODUCT DESIGN, DEVELOPMENT AND MANUFACTURING*
Adis J. Muminović

11:00 *FROM AUTOMATION TO HUMAN-CENTRIC INNOVATION: EMBRACING INDUSTRY 5.0 IN CHEMICAL MANUFACTURING*
Amra Bratovčić

11:15 *INDUSTRY 4.0 and INDUSTRY 5.0: EVOLUTION OF SYSTEM STRUCTURES FROM DIGITALIZATION AND CYBERNATION TO COGNITIZATION*
Elvis Hozdić

11:30 *EVALUATING THE ENVIRONMENTAL IMPACT OF AI AND INFORMATION TECHNOLOGIES*
Samir Lemeš

PANEL DISCUSSION:
DEVELOPMENT AND IMPLEMENTATION OF SMART MANUFACTURING - Integrating humans and technology

Panelists: *Prof. Sadko Mandžuka, PhD; Prof. Vidosav Majstorović, PhD; Prof. Lejla Banjanović-Mehmedović, PhD; Prof. Darko Lovrec, PhD; Prof. Lejla Gurbeta Pokvić, PhD; Prof. Zoran Miljković, PhD*
Moderator: *Prof. Maida Čohodar Huskić, PhD*

11:30–12:30 h

Coffee break – Lunch break
12:45–14:00 h

14:00 *AUGMENTED REALITY IN INDUSTRY 4.0/5.0*
Mijodrag Milošević, Mladen Vuković, Dejan Lukić

14:15 *COEXISTENCE AND INTEGRATION OF ARTIFICIAL INTELLIGENCE AND HUMANS IN TRAFFIC ENGINEERING*
Osman Lindov

14:30 *MATHEMATICAL MODELING BEHIND RECURRENT NEURAL NETWORKS*
Amina Radončić, Isak Karabegović

14:45 *MACHINE LEARNING MODELLING OF CO_2 EMISSIONS FOR SUSTAINABLE DEVELOPMENT: A COMPARATIVE STUDY OF BOSNIA AND HERZEGOVINA, CROATIA, AND SLOVENIA*
Mirza Pašić, Nejra Biber

15:00 *WOMEN AND INDUSTRY 5.0: EXPANSE FOR INCLUSION AND DIVERSITY IN THE CONTEXT OF DEVELOPING COUNTRY*
Munira Šestić, Mirha Bičo Ćar, Elvir Šahić

15:15 *DRONE-BASED MACHINE LEARNING APPROACH FOR ACCURATE WHEAT YIELD PREDICTION*
Madžida Hundur Hiyari, Nejra Merdović, Merima Smajlhodžić Deljo, Lemana Spahić, Basil Bošnjak, Lejla Gurbeta Pokvić

15:30 *ACCELERATING INNOVATION IN HEALTHCARE THROUGH HIGH-PERFORMANCE COMPUTING: APPLICATIONS AND FUTURE PERSPECTIVES*
Adna Softić, Sarah Spahić, Amra Džuho, Ana Lalović, Adna Ašić, Lejla Gurbeta Pokvić

Discussion - Conclusions
16:00–17:00 h

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