



ADP 2025



MEMBER OF



EUROPEAN
UNIVERSITY OF
TECHNOLOGY

Национално издателство
АЗ·БУКИ
National Publishing House

WORK PROGRAMME

29.06.2025 /SUNDAY/

14:00 to 16:30

CHECK-IN AND REGISTRATION
Lazur Summer Holiday House, Sozopol

30.06.2025 /MONDAY/

10:00 to 10:30

XXXIV ISTC ADP CONFERENCE OPENING – Hall I

Prof. Eng. Stilyan Nikolov, PhD - Dean of FME
Prof. Eng. Reneta Dimitrova, PhD - Head of Dep. ADP

10:30 to 12:30

FIRST PLENARY SESSION – Hall I

Chair: Prof. Ivo Malakov, DSc
Secretary: Assoc. Prof. Velizar Zaharinov, PhD

- Multi-criteria optimization of the structure of an automated assembly system
Ivo Malakov, Velizar Zaharinov
- Enhancing cost efficiency in manufacturing through 3C: an excel-based solution
Ramë Likaj, Gëzim Hoxha, Albi Macula
- Optimizing assembly cost estimation using 3C: focus on welding and mechanical fasteners
Afrim Gjellaj, Besart Berisha, Albi Macula
- Budget-oriented control system for intelligent building automation modules with feedback
Pancho Tomov, Lubomir Dimitrov
- Main challenges for integration of Industry 5.0 principles in existing systems for automation and control of industrial and manufacturing processes
Dimitar Totev
- Integrating STEMM principles in laparoscopic surgery training
Veronika Ivanova, Ani Boneva, Vasil Metodiev
- Collaborative off-road robot with hydrogen fuel cell for healthcare
Roman Zahariev, Nina Valchkova

12:30 to 14:00

LUNCH BREAK

14:00 to 14:30

PROJECTS PRESENTATIONS – Hall I

Chair: Prof. Eng. Reneta Dimitrova, PhD
Secretary: Assist. Prof. Slav Dimitrov, PhD

- Project in BAFA "GEORGI BENKOVSKI" under the National Scientific Program "Security and Defense"
Martin Kambushev

14:30 to 16:30

SECOND PLENARY SESSION – YOUTH SCIENTISTS Hall I

Chair: Prof. Eng. Reneta Dimitrova, PhD
Secretary: Assist. Prof. Slav Dimitrov, PhD

- Design of an automatic machine for simultaneous parallel processing of prismatic parts
Reneta Dimitrova, Sasho Vazharov
- Surface-shaping mechatronic neural network
Dobri Komarski, Velizar Vassilev, Hristiana Nikolova
- Motion and control of surface-shaping mechatronic neural network
Velizar Vassilev, Dobri Komarski, Hristiana Nikolova
- Synthesis, training and analyzing the performance of an artificial neural network (ann) for controlling the longitudinal motion of an unmanned aerial vehicle
Radostina Calovska, Stefan Biliderov
- Modernization the controlling of automated mechatronic system for cutting eco-briquettes
Slav Dimitrov
- Importance of sheet metal processing technologies in the process of development of feeding systems
Penko Mitev, Kiril Mitev
- Проектиране на нискостойностна система за шприцоване на малобааритни детайли
Анна-Мария Лазарова, Ренета Димитрова
- Сравнителен анализ на технологични процеси за производство на малобааритни неметални детайли
Анна-Мария Лазарова, Стилиян Николов

19:00

SOCIAL EVENT



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WORK PROGRAMME

01.07.2025 /TUESDAY/

10:00 to 12:00

FIRST POSTER SESSION – Hall I

Chair: Prof. Eng. Stilyan Nikolov, PhD

Secretary: Assist. Prof. Boyan Bahchevanov, PhD

1. Classification of 3D print technologies
Nikolay Stoimenov, Gabriela Kotseva, Vanya Georgieva
2. Investigating the roughness of 3D printed polymer samples
Miglena Paneva, Peter Panev, Gabriela Kotseva
3. Designing robotic cells in the environment ROBOGUIDE
Stilyan Nikolov, Boryan Vladimirov
4. On modelling robotic manufacturing systems
Ivanka Peeva, Chavdar Kostadinov
5. Engineering study of the positioning accuracy of modules for industrial robots
Tatyana Vakarelska, Izabela Radkova
6. Robust analysis of a quadcopter
Martin Kambushev, Radoslav Chalakov, Desislava Ilieva
7. Research on artificial neural networks as a regulator for an aviation dc generator
Kiril Kambushev, Naiden Chivarov, Martin Kambushev
8. Artificial intelligence and biometric technologies in defense: algorithms and challenges
Radoslav Chalakov, Andon Andonov, Viara Jekova
9. Хибридно управление на протеза за горен крайник
Йото Йотов, Емил Петров
10. Digital twins for threat simulation and intelligent defense strategies in automated discrete manufacturing
Roumiana Ilieva, Gloria Stoilova

12:00 to 13:30

13:30 to 15:00

LUNCH BREAK

ROUND TABLE: Opportunities for applying AI in production automation

Chair: Prof. Pancho Tomov, PhD

Secretary: Assist. Prof. Anna-Maria Lazarova

SECOND POSTER SESSION – Hall I

Chair: Prof. Pancho Tomov, PhD

Secretary: Assist. Prof. Anna-Maria Lazarova

1. How to select projects and allocate funds to obtain the total maximum profit for facing many different investment projects in the production strategy management plan of discrete production enterprise
Bao Gang, Pavel Vitliemov
2. Application of computer modelling and simulation systems and intelligent decision support technologies in control systems
Chavdar Kostadinov, Ivan Hristozov, Veselina Aleksandrova
3. Анализ на съществуващите решения в областта на взаимодействието между институциите при киберинциденти
Иван Христозов, Веселина Александрова, Чавдар Костадинов, Иван Чакъров
4. Optimizing the mass of an orientation module for delta robots
Stilyan Nikolov, Reneta Dimitrova
5. Performance improvement and validation of a high temperature test fixture by virtual prototyping
Georgi Todorov, Konstantin Kamberov, Yavor Sofronov
6. Постпроцесиране при използване на CAM системи за генериране на управляващи програми за CNC машини за лазерно рязане
Стилиан Николов, Боян Бахчеванов
7. Създаване и моделиране на система за управление на качеството в автоматизирано производство
Петър Маринов
8. Dynamic modeling of a quality management system in automated production
Петър Маринов
9. Innovative solutions for increasing the reliability of platter ski lift facilities
Aleksander Vukov, Milena Haralampieva, Rosen Petrov
10. Обзор на крачеши роботи в зависимост от броя на краката
Алдин Хаджиев

02.07.2025 /WEDNESDAY/

10:00 to 11:00

DISCUSSION AND CONFERENCE CLOSING – Hall I