

The 26th Edition of the International Conference AFASES, 2025

Scientific Research and Education in the Air Force

AFASES 2025 CONFERENCE PROGRAMME

Friday, 23rd May, 2025 12:00-13:30

MILITARY SCIENCES. HISTORY OF MILITARY SCIENCE & TECHNOLOGY / ROOM F.E.3-4	HUMANITIES & SOCIAL SCIENCES/ ROOM F.E.2-10
Chairs: Tiberiu TĂNASE & Traian OSTAIE 1. Sevladin STOYKOV, Ivo RADULOV, Zhivo PETROV (Rakovski National Defence College, Sofia) – The Role of the Rakovski National Defence College in Increasing the Resilience of the National Security System 2. Traian OSTAIE (Romanian Committee for the History and Philosophy of Science and Technology, CRIFST, of the Romanian Academy, Bucharest) – Learned Lessons through Clausewitz Perspective 3.Tiberiu TĂNASE, Camelia-Elena GOLEANU (Romanian Committee for the History and Philosophy of Science and Technology, CRIFST, of the Romanian Academy, Bucharest) – Information, a Weapon of War	Chairs: Marius MILANDRU & Cristian DRAGOMIR 1. Angela-Karina AVĂDĂNEI (“Mihai Viteazul” National Intelligence Academy, Bucharest), Adrian LESENCIUC (“Mihai Viteazul” National Intelligence Academy, Bucharest/ “Henri Coandă” Air Force Academy, Braşov) – Hungarian Language Media in Romania: Setting Minority Perceptions of Russia’s War Against Ukraine 2. Margarita GAVRILOVA (“Georgi Benkovski” Air Force Academy, Dolna Mitropolia) – Proactive Learning-Shifting Towards a More Innovative Higher Education 3. Pavlin TSONEV (“Georgi Benkovski” Air Force Academy, Dolna Mitropolia) – Enhancing Student Assessment: a Dual-Method Approach 4. Valya TSVETANOVA (“Georgi Benkovski” Air Force Academy, Dolna Mitropolia) – Framing Aerodynamic Terminology: a Linguistic Approach Preliminary Study 5.Marius MILANDRU (“Henri Coandă” Air Force Academy, Braşov) – Implementation of Project Management within the Military Organization

AERONAUTICAL AND ATMOSPHERIC SCIENCES [I]/ ROOM F.E.3-4	ENGINEERING AND APPLIED SCIENCES/ ROOM F.E.2-10
Chairs: Vasile PRISACARIU & Danail DAMYANOV 1. George-Răzvan BUICAN, Robert APREOTESEI (Transilvania University, Brasov) – Design and Experimental Evaluation of an Ion Wing Prototype 2. George-Răzvan BUICAN, Alexandrina IVAȘCU, Andrei BENCZE (Transilvania University, Brasov) –Bio Composite Materials as a Sustainable Solution for Modern Industries 3. Andrei BENCZE, George-Răzvan BUICAN (Transilvania University, Brasov) – Design Optimization Using FEM for Cargo Floor Strut 4. Andrei BENCZE (Transilvania University, Brasov) – Study on the Use of 3D Printed Parts for Aircrafts and Drones 5. Darius BOGHIEZ, George-Răzvan BUICAN (Transilvania University, Brasov) – Design and Experimental Evaluation of an Ion Engine Prototype 6.Danail DAMYANOV (“Georgi Benkovski” Air Force Academy, Dolna Mitropolia) – Structural Analysis. The Malfuctions of the Gas Turbine Engine Ai-25TI 7. Vasile PRISACARIU, Alexandru-Ioan CIUR, (“Henri Coandă” Air Force Academy, Brașov) – Aerodynamic Analysis Regarding the Flight Parameters of Modern Jet Trainers 8. Alexandru-Nicolae TUDOSIE (University of Craiova), Elena-Elisa DRAGOMIR (In Flight Test Research and Innovation Center, Craiova), Daniel-Cristian DRAGOMIR (University of Craiova) – Automatic Control of a Supersonic Air Inlet with Variable Inner Cross-Section	Chairs: Cornel ARAMĂ & Liviu GĂINĂ 1. Gabriel ANASTASIU (“Dragos Voda” National College, Câmpulung Moldovenesc), Andreea Valentina ANASTASIU (Polytechnic University, Cluj-Napoca), – Aspects of Hamming Encryption Using Raspberry PI Pico 2.Cornel ARAMĂ (“Henri Coandă” Air Force Academy, Brașov) – A Study on Methods to Apply the Energy Conservation Theorem in the Investigation of Traffic Accidents Using Detailed Breakdown of Energies 3.Nicolae CONSTANTIN, Anișor NEDELCU (Transilvania University, Brasov) – Enhancing Flood Response in Romania: The Role of AI and Integrated Alarm Systems 4.Andrei LUCHIAN (Transilvania University, Brasov) – Cybersecurity in Airports – Challenges, Technologies, and Protection Strategies for Critical Infrastructure 5.Liviu GĂINĂ, Alin MECLEA (“Henri Coandă” Air Force Academy, Brașov) – Energy Independence: An Essential Pillar for Critical Infrastructure Resilience

Friday, 23rd May, 2025 16:15-17:30

AERONAUTICAL AND ATMOSPHERIC SCIENCES [II]/ ROOM F.E.3-4	AERONAUTICAL AND ATMOSPHERIC SCIENCES [III]/ ROOM F.E.2-10
Chairs: Ionică CÎRCIU & Mihai PRICOP 1. Ionică CÎRCIU (“Henri Coandă” Air Force Academy, Braşov) – Versatility, Adaptability and Flexibility of Helicopter Armament Variants 2. Constantin Adrian MIHAI, Romulus LUNGU (Polytechnic University, Bucharest) – Nonlinear Dynamics and Adaptive Control Using The Dynamic Inversion Concept and Neural Networks for a Guidance Gyrosystem (GG) With One Gyroscope and Two Suspension Gimbals (GAR) Part 1. Obtaining the Nonlinear Dynamic Model 3. Constantin Adrian MIHAI, Romulus LUNGU (Polytechnic University, Bucharest) – Nonlinear Dynamics and Adaptive Control Using The Dynamic Inversion Concept and Neural Networks for a Guidance Gyrosystem (GG) With One Gyroscope and Two Suspension Gimbals (GAR) Part 2. Adaptive Control Architecture Design and Validation 4. Mihai PRICOP, Ionuţ BUNESCU, Vlăduţ HOTHAZIE, Mihăiţă Gilbert STOICAN, Leonida NICULESCU (“Elie Carafoli” National Institute for Aerospace Research and Development, Bucharest) – Impact Theory Applied for Hypersonic Vehicles 5. Mihai PRICOP, Ionuţ BUNESCU, Vlăduţ HOTHAZIE, Mihăiţă Gilbert STOICAN (“Elie Carafoli” National Institute for Aerospace Research and Development, Bucharest) – Identification of Optimal Dihedral Angle of an X-Wing Loitering Munition	Chairs: Adrian PITICAR & Eduard MIHAI 1. Adrian PITICAR, Alexandru TUDOR (“Henri Coandă” Air Force Academy, Braşov) – Increase in freezing level height in Romania over the 1980-2024 period 2. Marilena-Ioana ZUZEAC, Bogdan ANTONESCU (University of Bucharest) – The Climatology of Aviation Hazards Impacting Romanian Airports 3. Vasile PRISACARIU, Răzvan MĂNESCU (“Henri Coandă” Air Force Academy, Braşov) – Considerations for of Atmospheric and Environmental Data Acquisition with Quadcopter UAV 4. Simona ANDREI, Mariana ADAM, Alexandru DANDOCSI (National Institute for Research and Development in Optoelectronics - INOE 2000) – The use of CAMS products for supporting the atmospheric monitoring and air quality assessment in Romania. 5. Marius TUTUNEA (“Henri Coandă” Air Force Academy, Braşov) – Research of the Ground Mobile UAV Stations Used in Search and Rescue Missions 6. Eduard MIHAI (“Henri Coandă” Air Force Academy, Braşov) – The Future of Air Navigation in the Context of Evolving Artificial Intelligence