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MAY 2022



## Conference Guide

# SCIENTIFIC RESEARCH AND EDUCATION IN THE AIR FORCE

The 23<sup>rd</sup> Edition

AFASES 2022





**“Henri Coandă” Air Force Academy,  
Brașov, Romania**

**The 23<sup>rd</sup> Edition of the International  
Conference AFASES, 2022**

*Scientific Research and  
Education in the Air Force*

**Conference Guide**



# Conference Agenda

## **Thursday, 26 May 2022**

19.00 – 22.00 Ice Breaker Evening – Casa Mureşan

## **Friday, 27 May 2022**

08.30 – 09.00 Welcome and registration – “Henri Coandă” Air Force Academy (Auditorium Hall)

09.00 – 10.30 AFASES Official Opening. Plenary Session:  
Keynote speakers - “Henri Coandă” Air Force Academy (Auditorium Hall)

10.30 – 11.00 Photo session

11.00 – 13.00 Paper presentations on panels (I)

13.00 – 14.00 Lunch – “Henri Coandă” Air Force Academy

14.00 – 16.30 Paper presentations on panels (II)

18.00 – 23.00 AFASES official dinner – Casa Mureşan

## **Saturday, 28 May 2022**

10.00 – 14.00 Sightseeing activities



# The Session Panels

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<b>1. MILITARY SCIENCES</b>	<b>E32</b>	<b>10</b>
<b>2. DIGITALIZATION IN THE MILITARY HIGHER EDUCATION</b>	<b>F-E3.4</b>	<b>11</b>
<b>3. MANAGEMENT AND SOCIAL- HUMANITIES</b>	<b>E31</b>	<b>14</b>
<b>4. AERONAUTICAL AND ATMOSPHERIC SCIENCES</b>	<b>F-E3.11</b>	<b>15</b>
<b>5. WORK-SHOP SUSCAP PROJECT</b>	<b>F-E3.11</b>	<b>18</b>

# International Scientific Committee

## Scientific Director of the Conference:

**Marius ȘERBESZKI**, PhD

Rector of 'Henri Coandă' Air Force Academy, Brasov, Romania

## Scientific Committee:

**Iulian AGAFIȚEI**, PhD

"Carol I" National Defense University, Bucharest, Romania

**Simona ANDREI**, PhD

National Institute for Research and Development in Optoelectronics INOE 2000, Romania

**Bogdan ANTONESCU**, PhD

National Institute for Research and Development in Optoelectronics INOE 2000, Romania

**Daniela BELU**, PhD

"Henri Coandă" Air Force Academy, Brasov, Romania

**Sorin CHEVAL**, PhD

National Meteorological Administration, Romania

**Cătălin CIOACĂ**, PhD

"Henri Coandă" Air Force Academy, Brasov, Romania

**Ionică CÎRCIU**, PhD

"Henri Coandă" Air Force Academy, Brasov, Romania

**Aura CODREANU**, PhD

Regional Department of Defense Resources Management Studies, Brasov, Romania

**Adina-Eliza CROITORU**, PhD

Babeș-Bolyai University, Cluj-Napoca, Romania

**Dilyan DIMITROV**, PhD

"Vasil Levski" National Military University, Bulgaria

**Laurian GHERMAN**, PhD

"Henri Coandă" Air Force Academy, Brasov, Romania

**Diana ILIȘOI**, PhD

"Henri Coandă" Air Force Academy, Brasov, Romania

**Ioanna LEKEA**, PhD

Hellenic Air Force Academy, Greece

**Tudorel LEHACI**, PhD

"Carol I" National Defense University, Bucharest, Romania

**Adrian LESENCIUC**, PhD

"Henri Coandă" Air Force Academy, Brasov, Romania



**Marin Simeonov MARINOV**, PhD  
"Georgi Benkovski" Air Force Academy, Dolna Mitropolia, Bulgaria  
**Ecaterina-Liliana MIRON**, PhD  
"Henri Coandă" Air Force Academy, Brasov, Romania  
**Gabriel-Florin MOISESCU**, PhD  
"Henri Coandă" Air Force Academy, Brasov, Romania  
**Cristian MOLDOVEANU**, PhD  
Military Technical Academy "Ferdinand I", Romania  
**Zhivo PETROV**, PhD  
"Georgi Benkovski" Air Force Academy, Dolna Mitropolia, Bulgaria  
**Victor PRICOP**, PhD  
National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania  
**Roxana G. REICHMAN**, PhD  
Gordon College, Haifa, Israel  
**Daniel ROMAN**, PhD  
"Carol I" National Defense University, Bucharest, Romania  
**Andrzej SOBON**, PhD  
War Studies University, Poland  
**Andreea STOIAN KARADELI**, PhD  
University of Texas Rio Grande Valley, Edinburg, USA  
**Alexandru TUDOSIE**, PhD  
University of Craiova, Romania  
**Răzvan UDROIU**, PhD  
"Transilvania" University of Braşov, Romania

# Organizing Committee

## Chair:

Lect **Adrian PITICAR**, PhD  
Vice-Rector for Science, “Henri Coandă” Air Force Academy, Brasov, Romania

## Members:

Col Prof **Adrian LESENCIUC**, PhD  
Col Assoc Prof **Laurian GHERMAN**, PhD  
Assoc Prof Eng. **Ecaterina-Liliana MIRON**, PhD  
Assist Prof **Bogdan CHIOSEAU**, PhD  
Assist Prof Eng **Vasile PRISACARIU**, PhD

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Eng **Mariana GHINDĂOANU**  
Eng **Daniela OBREJA**  
Inf **Adrian ROTARU**  
Inf **Adina DOBRIȚOIU**

# Keynote Speakers

Col Assoc Prof **Andrzej SOBON**, PhD

Dean of National Security Faculty, War Studies University, Warsaw,  
Poland

Maj Gen (r) **Victor STRÎMBEANU**, PhD

Captain (N) Assoc Prof Eng **Paul BURLACU**, PhD

Vice-Rector for Scientific Research, “Mircea cel Bătrân” Naval  
Academy, Constanța, Romania

Col (AF) **Jănel TĂNASE**, PhD

“Henri Coandă” Air Force Academy, Brașov, Romania

CS2 Eng. **Victor PRICOP**, PhD

National Institute for Aerospace Research "Elie Carafoli", Bucharest,  
Romania

# 1. Military Sciences

Conference ROOM E32

**Panel coordinator: Adrian LESENCIUC**

“Henri Coandă” Air Force Academy, Braşov, Romania

1. *Numerical Evaluation of the Behavior of a Plate on Impact with a Rigid Projectile Using Element-Free Galerkin Method*, **Cătălin ADETU\***, **Anton HADĂR\***, **Vasile NĂSTĂSESCU\*\***, **Alina-Elena ADETU\*\***, \*Politehnica University of Bucharest, Romania, \*\*“Ferdinand I” Military Technical Academy, Bucharest, Romania
2. *Satellite Communications System - A Perspective on National Security*, **Daniel DOICARIU**, “Carol I” National Defense University, Bucharest, Romania
3. *Geopolitical Perspectives Of The Activity Of The German Military Mission On Romanian Territory Between 1940 And 1945*, **Daniel-Cornel ŞTEFĂNESCU**, “Henri Coandă” Air Force Academy, Braşov, Romania

## 2. Digitalization in the Military Higher Education

Conference ROOM F-E3.4

**Panel coordinator: Laurian GHERMAN**

“Henri Coandă” Air Force Academy, Braşov, Romania

1. *Interaction Between Types of Artificial Intelligence*, **Aleksandra ATANASOVA, Nataliya MARINOVA, Kaloyan ILIEV**, Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria
2. *The Role of NGOs in the State Security System*, **Jakub BELSKI**, War Studies University, Poland
3. *Contemporary Character and Future of Territorial Defense*, **Adam BICZYK**, War Studies University, Poland
4. *The importance of diplomacy in the Common Foreign and Security Policy of the European Union*, **Aleksandra BUDZYNSKA**, War Studies University, Poland
5. *The Process of Developing a Software for Dead Reckoning Problems Using Python*, **Paul BURLACU**, “Mircea cel Bătrân” Naval Academy, Constanţa, Romania

6. *Digital Technology as a Part of Habilitation and Rehabilitation Services for People with Disabilities*, **Daniela DIMITROVA\***, **Miroslav NEDELICHEV\*\***, \*Regional Centers for Support of the Inclusive Education Process, Shumen, Bulgaria, \*\*“Vasil Levski” National Military University, Shumen, Bulgaria
7. *Socio-Technical Implications of Digitalization in the Maintenance of Air Surveillance Systems*, **Liviu GĂINĂ\*\***, **Mihai-Alin MECLEA\*\***, **Mircea BOȘCOIANU\***, \*Transilvania University of Brașov, \*\*“Henri Coandă” Air Force Academy, Brașov, Romania
8. *Digitalization of Higher Education Through Virtual Reality Experience*, **Dyanko HUBENOV**, **Miroslav NEDELICHEV**, “Vasil Levski” National Military University, Shumen, Bulgaria
9. *Digitalizing Pilot’s Training on Safety Procedures or How to Deal With Abnormal Situations*, **Ioanna K. LEKEA**, **Dimitrios G. STAMATELOS**, **Theofilos KYRIAKIDIS**, **Pantelis RAPTIS**, Hellenic Air Force Academy, Greece
10. *The Practical Limits of Digitalization in Military Air Defence*, **Mihai-Alin MECLEA\*\***, **Liviu GĂINĂ\*\***, **Mircea BOȘCOIANU\***, \*Transilvania University of Brașov, \*\*“Henri Coandă” Air Force Academy, Brașov, Romania
11. *A New Age in the Air Force: The Digitalization of Military Higher Education*, **Ecaterina-Liliana MIRON**, “Henri Coandă” Air Force Academy, Brașov, Romania
12. *DDHE - Synchronous or Asynchronous Didactic in Higher Education Institutions after COVID-19*, **Andrzej SOBON**, National Security Faculty, War Studies University, Warsaw, Poland

13. *Education for Security in Poland - Transformation and Contemporary Challenges*, **Iona URYCH**, War Studies University, Warsaw, Poland
14. *AI SMEs in Industrial Management*, **Shih-Shuan WANG\***, **Hong-fu CHOU\*\***, **Mircea BOȘCOIANU\***, \*Transilvania University of Brasov, Romania, \*\*University of Luxembourg, Luxembourg
15. *Military Blockchain in Healthcare to Support Clinical Data*, **Shih-Shuan WANG\***, **Ionela-Roxana PUIU\***, **Eugen Silviu VRĂJITORU\***, **Marian STAFIE\*\***, \*Transilvania University of Brasov, Romania, \*\*“Henri Coandă” Air Force Academy, Brașov, Romania

# 3. Management and Socio-Humanities

Conference ROOM E31

**Panel coordinator: Bogdan CHIOSEAU**

“Henri Coandă” Air Force Academy, Braşov, Romania

1. *Mentoring - An Organizational Need Nowadays*, **Diana CHIŞ-MANOLACHE**, “Carol I” National Defence University, Bucharest, Romania
2. *The Importance of Transformational Leadership in Organizations*, **Diana CHIŞ-MANOLACHE**, “Carol I” National Defence University, Bucharest, Romania
3. *Perspectives on Risk Management in Crisis Times*, **Dumitru IANCU**, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania
4. *PREPARE - Support Center for European Project Management and European Promotion*, **Flori TOANCA, Doina-Nicoleta NICOLAE, Simona ANDREI, Alexandru TILEA, Cătălin DUMITRESCU, Marin SENILA**, National Institute of R&D for Optoelectronics INOE, Romania



# 4. Aeronautical and Atmospheric Sciences

Conference ROOM F-E3.11

**Panel coordinator: Vasile PRISACARIU**

“Henri Coandă” Air Force Academy, Braşov, Romania

1. *Current Approaches of Aeronautical Weather Hazards Within Romanian Airspace Using Remote Sensing Techniques and Numerical Simulations*, **Simona ANDREI\***, **Denisa URLEA\*\***, **Bogdan ANTONESCU\***, **Răzvan PÎRLOAGĂ\*\*\***, **Anca NEMUC\***, **Alexandru ILIE\***, **Doina NICOLAE\***, \*National Institute of Research and Development for Optoelectronics INOE 2000, Măgurele, Romania, \*\*Romanian Air Traffic Services Administration—ROMATSA, Bucharest, Romania, \*\*\*Faculty of Physics, University of Bucharest, Măgurele, Ilfov, Romania
2. *A Machine Learning Approach to Predict Mean Monthly Precipitation*, **Alexandru ANTAL**, University of Craiova, Craiova, Romania
3. *Statistical Approaches to Aerospace Risk Management*, **Albert BALTEANU**, “Henri Coandă” Air Force Academy, Braşov, Romania
4. *Fem Hypothesis Which Can Be Applied for FDM Applications*, **Mădălina-Ioana BLAJ**, **Gheorghe OANCEA**, Transilvania University of Braşov, Romania

5. *Development and Implementation of an Automated Pilot System for a Fixed-Wing Twin-Engine Airplane UAV*, **George Răzvan BUICAN, Sebastian-Marian ZAHARIA, Ionut Stelian PASCARIU, Lucia-Antoneta CHICOS, Camil LANCEA, Mihai Alin POP, Valentin-Marian STAMATE**, “Transilvania” University of Braşov, Romania
6. *Mission management for an automated pilot system mounted on a fixed-wing twin-engine airplane UAV*, **George Răzvan BUICAN, Sebastian-Marian ZAHARIA, Ionut Stelian PASCARIU, Lucia-Antoneta CHICOS, Camil LANCEA, Mihai Alin POP, Valentin-Marian STAMATE**, “Transilvania” University of Braşov, Romania
7. A country scale assessment of the heat hazard-risk in urban areas, **Sorin CHEVAL<sup>\*,\*\*</sup>, Alexandru DUMITRESCU<sup>\*</sup>, Vlad AMIHĂESEI<sup>\*,\*\*\*</sup>, Adrian IRAŞOC<sup>\*,\*\*\*\*</sup>, Monica-Gabriela PARASCHIV<sup>\*,\*\*\*\*</sup>, Darren GHENT<sup>\*\*\*\*\*,\*</sup>**, <sup>\*</sup>Department of Climatology, National Meteorological Administration, Bucharest, Romania, <sup>\*\*</sup>Doctoral School of Geography, Faculty of Geography, Babeş-Bolyai University, Romania, <sup>\*\*\*</sup>Department of Geography, Faculty of Geography and Geology, Alexandru Ioan Cuza University of Iasi, Romania, <sup>\*\*\*\*</sup>Doctoral School "Simion Mehedinţi - Nature and Sustainable Development", Faculty of Geography, University of Bucharest, Romania, <sup>\*\*\*\*\*</sup>National Centre for Earth Observation (NCEO), <sup>\*\*\*\*\*</sup>Department of Physics & Astronomy, University of Leicester, United Kingdom
8. *Gradual Increase in the Operational Capability of the Transitional Air Force*, **Ionică CÎRCIU**, “Henri Coandă” Air Force Academy, Braşov, Romania
9. *Considerations on How to Improve the Training and Maintenance of Paratroopers' Skills*, **Mihai-Dan DEAŞ**, “Henri Coandă” Air Force Academy, Braşov, Romania

10. *Technical Solutions Available in the Present Geopolitical Situation*, **Sorin DINEA**, Henri Coanda NGO, Bucharest, Romania
11. *The current Henri Coandă*, **Sorin DINEA**, Henri Coanda NGO, Bucharest, Romania
12. *Risk Management, an Example of Enforcing it to Provide Flight Safety and Operational Capabilities*, **Mădălina DUMITRU**, Transilvania University of Braşov, Romania
13. *Considerations about Nanotechnology and Nanomaterials*, **Anca HARABAGIU**, **Albert BALTEANU**, “Henri Coandă” Air Force Academy, Braşov, Romania
14. *Nord Atlantic Cyclones Tracks in Europe and Their Influence Over Amount of Precipitation Recorded in Romania (1985-2015)*, **Vlad-Alexandru ILIE**, **Adina-Eliza CROITORU**, **Titus-Cristian MAN**, Faculty of Geography Babes-Bolyai University, Romania
15. *Need to Know – Aerial View for C2*, **Mihai PALADE\***, **Emilian VLĂSCEANU\*\***, \*Interactive Software, Bucharest, Romania, \*\*Autonomous Flight Technologies, Bucharest, Romania
16. *Unmanned Aerial Vehicles Timeline in the 1970-1980*, **Vasile PRISACARIU**, ”Henri Coandă” Air Force Academy, Braşov, Romania
17. *Operational feedback from Air Force to Industry: Milestones in technical development of air defence systems*, **Mihai-Victor PRICOP**, National Institute for Aerospace Research “Elie Carafoli” – INCAS, Bucharest, Romania
18. *The Impact of Using Civilian Management Techniques in the Air Force*, **Vasile Adrian STOICULETE**, ”Carol I” National Defence University, Bucharest, Romania

## 5. Work-shop SUSCAP project

Conference ROOM F-E3.11

1. *National aspects regarding the SUSCAP project*, **Ionică CÎRCIU**, “Henri Coandă” Air Force Academy, Braşov, Romania
2. *Analysis of Climate Change and Air Pollution Conditions with an Impact on Crops*, **Sorin CHEVAL**<sup>\*</sup>, **Adrian PITICAR**<sup>\*\*</sup>,  
<sup>\*</sup>Department of Climatology, National Meteorological Administration, Bucharest, Romania, <sup>\*\*</sup>“Henri Coandă” Air Force Academy, Braşov, Romania
3. *Tools Used in the SUSCAP Project and Dissemination Activities*, **Vasile PRISACARIU**, “Henri Coandă” Air Force Academy, Braşov, Romania
4. *Analysis of Temperature-Based Agroclimatic Indices in Southern Romania*, **Adrian PITICAR**<sup>\*</sup>, **Sorin CHEVAL**<sup>\*\*</sup>, <sup>\*</sup>“Henri Coandă” Air Force Academy, Braşov, Romania, <sup>\*\*</sup> Department of Climatology, National Meteorological Administration, Bucharest, Romania
5. *Evaluation of Agro-Meteorological Models on a European Scale*, **Adrian PITICAR**, “Henri Coandă” Air Force Academy, Braşov, Romania
6. *UAV Missions in Agro-Meteorology*, **Vasile PRISACARIU**, “Henri Coandă” Air Force Academy, Braşov, Romania

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