BOOK OF ABSTRACTS

Henri Coanda
Air Force Academy
Brasov, Romania

AFASTUD 2022

The 23rd Students' International Conference

Communicating across Cultures

25 March 2022
Brasov, Romania

Conference Agenda

THURSDAY, March 24, 2022

16.00 hrs – 22.00 hrs	Arrival of delegations/ "Henri Coanda" Air Force Academy
19.00 hrs – 22.00 hrs	Ice breaker / Students' Dining Facility (all participants are invited/dress code: smart casual)

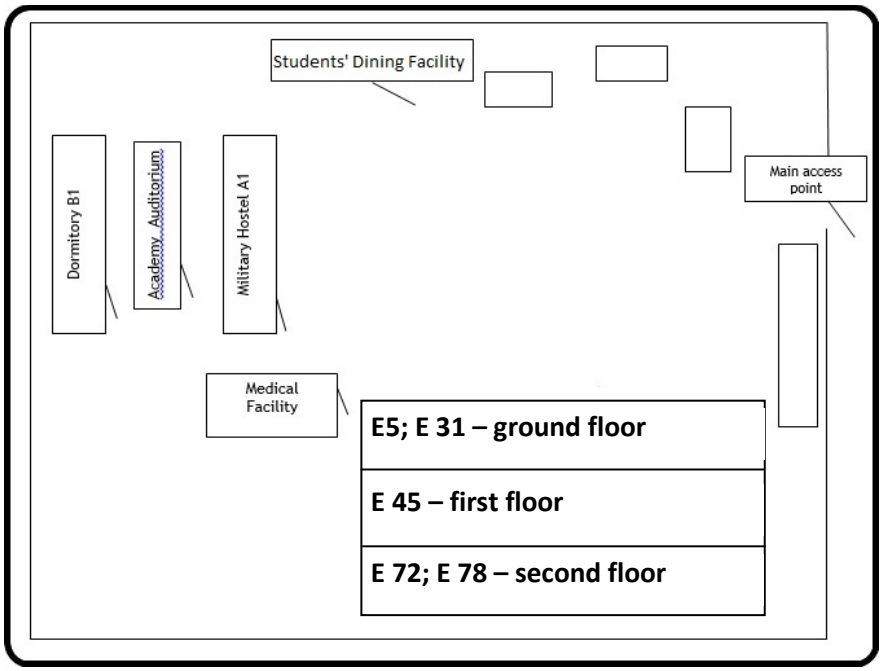
FRIDAY, March 25, 2022

07.30 hrs – 08.30 hrs	Breakfast *(*Students' Dining Facility*)*					
08.30 hrs – 09.00 hrs	**Welcoming and registration** *(antechamber of Academy Auditorium)*					
09.00 hrs – 09.30 hrs	**Official Opening of the International Conference "Communicating across Cultures" AFASTUD'22** *(Academy Auditorium)*					
9.30 hrs – 10.00 hrs	**Photo Session** *(In front of Bdg A1)*					
10.00 hrs – 13.00 hrs	**Panels (I)**	**Weapons & Defense Technology** ***E - 5***	**Fundamental sciences & Engineering** ***E – 45***	**Humanities & Social Sciences** ***E – 72*** ***E - 78***	**Military sciences & Management** ***E - 31***	**Aeronautical History** **K - 6**
13.00 hrs – 14.00 hrs	Lunch/ Students' Dining Facility *(*Students' Dining Facility*)*					
14.00 hrs – 16.00 hrs	**Panels (II)**	**Weapons & Defense Technology** ***E - 5***	**Fundamental Sciences & Engineering** ***E - 45***	**Humanities & Social Sciences** ***E – 72*** ***E - 78***	**Military Sciences & Management** ***E - 31***	**Aeronautical History** **K - 6**
16.30 hrs – 17.00 hrs	**Closing of the International Conference "Communicating across Cultures" AFASTUD'22/ "Henri Coanda" Air Force Academy's** *(Academy Auditorium***)**					
19.00 hrs – 02.00 hrs	Students' Official Dinner *(*Students' Dining Facility*)*					

SATURDAY, March 26, 2022

09.00 hrs – 10.00 hrs	Breakfast *(*Students' Dining Facility*)*
10.00 hrs – 14.00 hrs	Brasov sightseeing tour
15.00 hrs	**Departure of delegations**

Conference Location Map



Moderators

1. MILITARY SCIENCES & MANAGEMENT

Lt. Col. Lect Bogdan **CHIOSEAUA**, PhD
Student Diana Cristina **MILU**
Student Ioana Raluca **OAIDĂ**

2. WEAPONS & DEFENSE TECHNOLOGY

Maj Liviu **GĂINĂ**
Maj Mihai-Alin **MECLEA**
Student Andreea **AMBROS**
Student Vasile Petru **BEGA**

3. HUMANITIES & SOCIAL SCIENCES

Lect Daniela **NAGY,** PhD
Lect Ramona **HĂRŞAN**, PhD
TA Kinga **KOLUMBÁN**
Student Andra **ÎNSURĂŢELU**
Student Diana **BULARCA**
Student Nadia **PETRUSE**
Student Alexia **SAVONEA**

4. FUNDAMENTAL SCIENCES & ENGINEERING

Assoc. Prof. Eng. Doru **LUCULESCU**, PhD
Lect Bogdan **MUNTEANU**, PhD
Student Elena **DOBRE**
Student Andrei **GRAUR**

5. AERONAUTICAL HISTORY

Lect Jănel **TĂNASE**, PhD
Student Ruth **DRĂGUŞIN**
Student Claudiu **FUSARU**

Scientific Committee

Senior Researcher Eng. Irina **ANDREI**, PhD
National Institute for Aerospace Research "Elie Carafoli", Bucharest,Romania

Brig Gen (r) Prof. Vasile **BUCINSCHI**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Assoc. Prof Elena **BUJA**, PhD
Transilvania University of Braşov, Romania

Prof. Sorin **CHEVAL**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Col. Assoc. Prof Eng. Dilyan **DIMITROV**, PhD
"Vasil Levski" National Military University, Veliko Târnovo, Bulgaria

Col. Assoc.Prof. Eng. Laurian **GHERMAN**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Assoc. Prof Diana **ILIŞOI,** PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Assoc. Prof Ioanna **LEKEA,** PhD
Hellenic Air Force Academy, Acharnae, Greece

Lt.Col. Prof. Adrian **LESENCIUC**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Assoc. Prof. Eng. Doru **LUCULESCU**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Assoc. Prof. Eng. Liliana **MIRON**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Maj Gen Prof. Gabriel-Florin **MOISESCU**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Col Assoc Prof Zhivo **PETROV**, PhD
"Georgi Benkovski" Air Force Academy, Dolna Mitropolia, Bulgaria

Col. Assoc.Prof. Vasile **ŞANDRU**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Prof. Mariselda **TESSAROLO**, PhD
University of Padua, Padua, Italy

Prof eng. Michael **TODOROV,** PhD
Technical University, Sofia, Bulgaria

Conference Panels

1. Military Sciences & Management

Conference ROOM E31

Moderators:

Lt.Col. Lect Bogdan **CHIOSEAUA**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Student Diana Cristina **MILU**
"Henri Coandă" Air Force Academy, Brasov, Romania

Student Ioana Raluca **OAIDĂ**
"Henri Coandă" Air Force Academy, Brasov, Romania

Revolution in Military Affairs

Eduard Daniel BÂRLEAN
"Henri Coandă" Air Force Academy, Brasov, Romania

This paper provides information about the revolution in military affairs, by different perspectives. The paper starts with a short introduction and the first mention of the term, a general presentation of the concept and what areas does it affect, an enumeration of the modern military revolutions, finishing up with a conclusion and a personal point of view on the subject.

The Psychological Impact on the Military Deployed in Operation Theaters

Cristian-Cătălin BARTĂȘ
"Henri Coandă" Air Force Academy, Brasov, Romania

We often wonder watching American Military movies what's so hard with the military feelings, what they actually fell during deployment and what happens when they got home "sick", this is a research who ask questions about Theatre of Operations and their impact on soldiers who choose to serve the country and her purpose. We call soldiers "Human Resource" and I studied psychological impact on them before they take off, when they are in TO and after they got home. As you see the most impact which everyone sees it's when they got home, but the fact is problems appear long before, when they got the deployment news.

Restrictions and Specific Requirements in the Field of Movement and Transportation in the Military (Army)

Filip CARDASIM
"Carol I" National Defense University, Bucharest, Romania

The Romanian Army has to fulfill a set of specific missions and tasks as part of the National Defense system. Some of these tasks and missions have at least a component that refers to movement and transportation and others are based only on this activity. When it comes to preparing for a certain mission or task, the military personnel have to be extra careful to deploy only those vehicles that live up to the mission requirements and that are certified to be used for that purpose. The national and internal laws and regulations that put some order in the field of movement and transportation are not always optimized and can pose some problems to the military that are working towards success. Sometime laws are not being updated to correspond to the reality in the field and it can be a little too demanding and restrictive for the military organization to follow them. Having problems with aligning your organization with the laws in your domain can lead to delays and compromises that can endanger the mission and pose a threat to the organization. In this article we are going to analyze some of the restrictions and specific requirements related to movement and transportation domain and to identify were do problems and risks appear for the military. Moreover, we intend to provide some useful conclusions and solutions to this kind of problems.

The Influence of Stress in the Military Environment

Bogdan-Andrei CIOLOCA
"Henri Coandă" Air Force Academy, Brasov, Romania

The relationship between stress and performance is extensive and diverse. The question of how stress affects performance is a relevant one, given the nature of the current security environment and the challenges facing military personnel. Stress is a common part of military life. Although fighting is often the first stressor that comes to mind when it comes to military stressors, service members may face many other stressful conditions, such as demanding training, lack of sleep, living in a military unit, and more other. In combination with high levels of violence and threats, these situations will cause acute stress reactions that can affect performance and ability to operate efficiently. This article examines the extent to which stress is present in the military, the causes of its occurrence, but also how stress affects performance and how these effects can be controlled and applied in the military context. The purpose of this article is to bring to the attention of military planners and instructors this very common problem in the military environment.

Decision-Making Process Regarding Aviation Risks

Ștefana COLONESCU
"Henri Coandă" Air Force Academy, Brasov, Romania

The human resource is the most important of all the other available resources, but at the same time it is also the most prone to error due to the uniqueness of each individual. As a result, the process of selecting the aircrew is becoming increasingly complicated and difficult. However, not even those who pass these tests can say that they are fully prepared for what this job entails. Only after countless hours devoted to strict learning of aviation procedures and rules, as well as those spent at the simulator to deepen theoretical knowledge, it can be said that pilots have a solid support which will allow them to gradually move to the actual piloting of an aircraft. The occurrence of errors in the performance of these activities is inevitable, but the way and speed at which they must be countered can be improved. It is true that technology is constantly evolving and that artificial intelligence is gaining ground ahead of human performance, but to draw the line and say what the outcome will be in the future it is appropriate to reflect on whether a computing machine can determine a performance threshold; the same cannot be said about human.

Emotional Intelligence in Military Leadership

Oana-Mariana CORPODEAN
"Carol I" National Defense University, Bucharest, Romania

I believe that the history of mankind has revolved around great personalities who have had the power to guide the course of significant events due to their exceptional qualities as leaders. Emotional intelligence has always been the key to great victories, even when the odds seemed slim. I chose this topic because I am convinced that a successful military career can only be built through a genuine awareness of the importance of emotional intelligence in military leadership. In military structures, the leader has always been at the forefront of the organization and conduct of specific actions, with the aim of increasing the level of efficiency and effectiveness of these actions.

Offensive Counterair Operations Against Enemy Air Forces – Their Role and Influence Over the Outcome of Armed Conflict

Alin-Claudiu FUSARU
"Henri Coandă" Air Force Academy, Brasov, Romania

In order to present the influence and the role of offensive counterair operations against enemy Air Forces in the development and outcome of the armed conflict, I will define and divide counter air operations within two categories, with emphasis on our topic of interest, the offensive ones. I will also discuss goals, execution, choosing targets and the objectives of the offensive counter air operations. Last but not least, I will highlight the influence of this type of operation during an armed conflict or even a war. In order to fully understand the importance of these operations, I will also talk about the levels of control of the air and the importance of maintaining air supremacy. Both the scientific ideas and my personal opinions will be supported by appropriate pictures, figures and diagrams. I

would like to point out that this article complements my bachelor's thesis, entitled "Use of tactical fighter aviation structures to protect airspace and cover forces and objectives".

Hybrid Warfare: New Challenges

Paul-Cristian GRIGORAS
"Carol I" National Defense University, Bucharest, Romania

The main purpose of this article is to introduce the concept of hybrid warfare and to introduce the reader to this issue. The Hybrid warfare is becoming more and more popular on the global stage, mainly due to the achievement of objectives with lower costs and human losses compared to conventional war. Because it is an emerging factor that marks the change in the nature of conflicts, this concept has become one of interest in national security. The article will present the conceptual basis, the hybrid threats, the mode of action of the hybrid warfare, and the areas in which it takes place, along with ways to counteract it. Finally, for a better understanding of the subject, a case study that aims the importance of hybrid warfare and its role in Russia's illegal annexation of the Crimean Peninsula will be presented.

Influence of PTSD on military women

Andra ÎNSURĂȚELU
"Henri Coandă" Air Force Academy, Brasov, Romania

Successfully integrating women into military combat operations can be challenging. In the context of military training and deployment, both female and male soldiers face a variety of pressures. In addition, military women in traditional and male-dominated work environments may also be exposed to stressors related to women. Female soldiers in both combat and noncombat units exhibited higher levels of stress than male soldiers. The purpose of this article is to discuss the difficulties women face in combat operations and the influence of mediating psychological factors on the stress they experience and its effects. It will also highlight that emerging issues that promote the development of post-traumatic stress disorder (PTSD) are also relevant to women deployed to war zones. Topics discussed include gender differences in combat experience and postwar PTSD. Because most models of the effects of wartime service on PTSD are based on the experiences of male soldiers, the increasing role of women in combat operations presents both opportunities and challenges for adapting these models to better account for soldiers' experiences.

Sage Possibilities and Requirements of Air Traffic Controller Simulators

Patrik KOVÁCS
Faculty of Military Science and Officer Training, University of Public Service 'Ludovika', Szolnok, Hungary

The growing amount of the air traffic all over the world requires the higher level of competencies in the provision of air traffic services. These competencies are accessible

and sustainable through well-defined trainings system in a simulated environment. The air traffic controllers have a key role in the provision of the safe and continuous flow of air traffic, that's why it is important them to always be well prepared for unscheduled situations. Simulators are present in different levels of air traffic controller training from the beginner to the professional, multi-crewed ones. In this paper the author was trying to find out whether what differences have exist in COTS (Commercial Off The Shelf) simulators and which one could be the best choice for the training of student MATCOs (Military Air Traffic Controller Training). For the purpose of this research, first a set of requirements have been put in place which are involved the special procedures of the military air traffic, the likeness of visual images and the particularities of MATCO procedures.

Challenges Regarding the Digitalization Process in the Field of Military Education

Maria IORDACHE, Bianca-Ștefania NEDELCU
"Carol I" National Defense University, Bucharest, Romania

Education is a very important part of each person's evolution, because through it we become intellectual, rational people, being able to act in different fields of activity in a responsible way. Military education is a fundamental part of training, is responsible for initial training and continuous profesional development, and represents the biggest investment of the Army in human resourse development, thus increasing the performances of military structures. Nowadays the accent is on digitalization and everything around us is digitalized and therefore education has to take a new course. With this article we aim to raise awareness about the educational proces, both in the civilian and military environment, to change the way of thinking about it, to stop the outdated methods of teaching and learning, and implement innovative, more efficient ones, by informing the population about the process of digitalization, what it means, what it provides, how it helps in the field of education and the advantages and disadvantages that come with it.

Blood Type Personality

Alexandra-Renati PRUNDEANU
"Henri Coandă" Air Force Academy, Brasov, Romania

No studies to date came up with fruitful consequences regarding if or not there's a relationship between blood groups and personality traits. Traditionally, Japanese and Korean people support the generality that there are natural inclinations of personality traits in blood groups. Our study aims to explore the rationality of this generality that personality traits and blood groups are interrelated. This study prognosticated that compared to those with other blood types, blood Type B individualities would be advanced on neuroticism, blood Type O (zero) individualities would be advanced on extraversion and sanguinity, blood Type A individualities would be advanced on affability, and blood Type AB individualities would be advanced on meticulousness. The main effect for gender on neuroticism and a commerce effect for gender and blood Type B on neuroticism were also prognosticated.

The Evolution of War and Geopolitical Framework

Florentina REBEGA
"Henri Coandă" Air Force Academy, Brasov, Romania

This paper aims to address the issue of war in the current context. War, as we know, is an ever-evolving field in which new weapons are constantly being used. The development of technology has led to a change in both the concept of war and the environment in which it operates.

Multimedia Training Support, as a Modern Tool of Troop Training Methodology

Lukáš WINKLER
Department of All-Army Tactics, University of Defense, Brno, Czech Republic

The following text will be describing use of multimedia support in military training. Specifically, benefits and disadvantages of using multimedia support in field training. By multimedia support is meant video, created especially for "field training" in first year of studies at the University of Defense. Method, used in this work is experiment. In this experiment there are three major measured sections, motivation, training results and memory. All measured against control group. Data, gathered from the experiment will be presented later. From the preliminary investigation is evident that there is increase in motivation which manifests in students training results. Multimedia technology are creating major part of your lives if we like it or not. This work is aiming towards improvements in transmission of information. Visualization of the enemy and crating more complex operation environment.

2. Weapons & Defense Technology

Conference ROOM E5

Moderators:

Maj Liviu **GĂINĂ**
"Henri Coandă" Air Force Academy, Brasov, Romania

Maj Mihai-Alin **MECLEA**
"Henri Coandă" Air Force Academy, Brasov, Romania

Student Andreea **AMBROS**
"Henri Coandă" Air Force Academy, Brasov, Romania

Student Vasile Petru **BEGA**
"Henri Coandă" Air Force Academy, Brasov, Romania

2K12 KUB Missile System

Eusebiu-Septimiu BANTU
"Henri Coandă" Air Force Academy, Brasov, Romania

2K12 KUB is a Russian surface-to-air missile with a mid-range integrated rocket-ramjet that was widely used by Soviet armies and exported to 22 nations. During the Arab-Israeli War in October 1973, the missile was one of the great technological surprises in warfare. The Israelis and their American allies were unaware of the Kub's continuous-wave illumination radars and had no electronic countermeasures in place. The only viable option was to fly the plane straight into the approaching missile and then dive beneath it at the last possible time.

The Use of Radar Technology in the Second World War

Vasile-Petru BEGA
"Henri Coandă" Air Force Academy, Brașov, Romania

The Second World War is considered to be one of the most important events of the 20th century and certainly one event crucial for the development of technology in which we can include the device that was first used on such a big scale and with so many innovations, the radar. The purpose of this paper is to identify the main applications of the radar in the different theatres of war across the world and to analyse the consequences on a bigger scale in regard to the proper use and innovation of the radar. In order to know the importance of the radar today, we must first understand the purpose and development of the past. For this reason, the paper will contain the English,

American, German, Russian, French and Japanese way of understanding and implementation of the radar for air, land and naval use. The main subject are The Battle of Britain and the Pacific War because of their inherently dependence on the radar and the radio as the main source of information on the battlefield.

Polish Navy and Coastal Defence Development and Doctrines

Adam BICZYK
War Studies University, Warsaw, Poland

Often, the role of the Navy is either misunderstood or forgotten when it comes to the history of Poland. Using both historical and geographic examples, author will present naval doctrines as well as the development of the Polish Navy and Coastal Defence forces. Author will also analyse the current state of the Polish Navy, it's problems and undertake an attempt of forecast.

Laser Guided Ammunition – L.G.B. (Laser Guided Bombs)

Dragoș-Alexandru BRADU
"Henri Coandă" Air Force Academy, Brașov, Romania

This article is written in order to highlight what guided ammunition is, in the first phase, and focuses on presenting a specific type of guided ammunition called L.G.B, the Laser Guided Bombs, which were first developed in the US, in the 1960s and didn't fail in their mission to prove their superiority in accuracy over the unguided bombs. The operational use of the L.G.B began in 1968, in the Vietnam War. The article will cover a general description, technical data, such as characteristics, composition of the bomb, guiding systems and subsystems, but also ways of operating the Laser Guided Bombs.

Dual-Use Technology: Laser Military Applications

Andreea BRUMA
"Carol I" National Defence University, Bucharest, Romania

The main purpose of this article is to describe and explain the notion of dual-use technologies in particular regarding laser military applications in the 21st century. Since laser technologies advanced substantially in the last few decades applications were developed both in the civilian and the military domains. Moreover, this paper outlines some of the most important laser projects and their impact and importance at global level, identifying relevant evaluative trends as well. For documentation information from open sources was processed and analyzed through methods such as literature review and various case studies. At the end of the paper, some conclusions are formulated and possible trends in the development of military laser applications are identified.

FGM-148 Javelin

Andrei BUTNARIU
"Henri Coandă" Air Force Academy, Brașov, Romania

The Javelin missile system is portable and is manufactured by Raython and Lockheed-Martin. The range of this system is from 2.5 km to 4.7 km. The missile's warhead is of the HEAT tandem type to be able to destroy armored targets. The missile is powered by a system that does not endanger the life of the user. The seeker works on the principle of "shoot and forget" to be able to aim the target without depending on the user. The tracker is the main component of the missile's guidance and control system, which determines the corrections to track and hit the target.

Development of Radar System in the Romanian Army

Dumitru-Petru DEMEDIUC
''Henri Coandă'' Air Force Academy, Brașov, România

The radiolocation specialization experienced a development and changes of the most spectacular, this based on the law No. 938 of March 1939 the General Service for the Ping and Alarm was established, six radio stations, German production were deployed on Romanian territory: 3 FREYA and 3 Wurtzburg. From now on Romania's radar has been constantly evolving and is still having developed a great deal, if at first a radar could see a few kilometers away, of course nowadays radar stations have much better target determination accuracy. In Romania, the issue of airspace surveillance and defense had been of great interest even before the war entered, but the lack of material and financial means has been delays its materialization. Thus, the beginnings of the anti-air artillery are met in 1915 by adapting a research cannons (1880 model, cal. 75 mm) for anti-air pulling. On 15 august 1916, whit Romania's entering the war, the Anti-Air Defense Corps was set up, with 22 air space observation stations.

Study of the Characteristic of Yagi-Uda Antennas

Cosmin-Andrei ENACHE
''Henri Coandă'' Air Force Academy, Brașov, România

As an essential element of a radio system, the antenna has always been an interesting but difficult subject for radio frequency (RF) engineering students and engineers. This article is intended to try to examine antennas from both the circuit point of view and the field point of view. This article will highlight the characteristics of antennas, focusing on the study of Yagi-Uda antennas. Also called a beam antenna, the Yagi is very widely used as a directional antenna on the HF, VHF and UHF bands. The largest and best-known use is as rooftop terrestrial television antennas, but it is also used for point-to-point fixed communication links in radar antennas, and for long distance shortware communication by shortware broadcasting stations.

The Threat Posed by Modern UAS, Illustrated by the War in Nagorno-Karabakh

János Máté FODOR
University of Public Service, Ludovika, Budapest, Hungary

In this publication I wanted to present an overview of unmanned aircraft through the Nagorno-Karabakh war. The ever changing technology and warfare requires knowledge of these systems and how to defend and prepare against them. In this paper, among other things, an evaluation of the event, a presentation of the systems used and possible defensive measures are presented with reference to future warfare. It also looks at the financial implications of incapacitating drones and the threat they pose to civilian areas.

Principles of Electronic Defense, Radio Navigation and GPS Systems

Andrei GHEORGHE
"Henri Coandă" Air Force Academy, Brașov, Romania

With the passing of time, electronic technology has come to play an increasingly important role in military operations. The electronic era goes back to the time when radio and the radio direction finder were used to give the platform position. The following step was the introduction of radar for the detection and location in angle and in range of hostile platforms, and its subsequent use to increase the accuracy of artillery. The last step, and probably the most lethal one, has been the use of electronic devices for precision guidance of missiles. The effectiveness of electronically guided weapon systems, expressed in terms of kill probability, has risen. Consequently, almost all effective weapons have electronic guidance devices.
Radio navigation systems (RNS) are designed to determinate the coordinates, speed and direction of movement, deviation from a given route, and other parameters of the aircraft, regardless of time and weather condition. RNS are used on all aircraft types.
On the other hand, GPS is based on satellite ranging, calculating the distance between the receiver and the position of three or more satellites. Assuming the positions of the satellites are known, the location of the receiver can be calculated by determining the distance from each of the satellites of the receiver.

Multilayered Air Defence Systems

Ionuț GHIMIȘ
"Henri Coandă" Air Force Academy, Brașov, Romania

Air defense is one of the essential components of modern armed conflict, the development of which has been generated by the evolution of means of air attack. Air

threats have grown exponentially and so have trends are to achieve high-performance aerial systems in terms of range, the accuracy of shots, and protection against air defenses.

The Appearance of Military Drones and Their Evolution

Valerio IFTIMIE
"Henri Coandă" Air Force Academy, Brașov, Romania

In the last decades, we have witnessed the growing development of a new branch of aeronautics, that of unmanned aircraft on board, including in the military field. The wars of the future will surely have an integrated character, in the sense that the participants in the conflict will act in all four areas: land, air, sea and space, and will come from all categories of military forces. One thing is certain, namely that the unmanned aircraft on board, by the technological complexity offered, by the adaptation and use of these new elements, will be able to significantly influence the strategy of the future war in space, time and action.

The Hellfire Missile (AGM-114)

Andrei-Nicolas JARDĂ
"Henri Coandă" Air Force Academy, Brașov, Romania

The Hellfire missile, known as AGM-114 (Air-to-Ground), represents an subsonic missile with huge anti-tank capacity. It is laser guided, so it can also be used as an air-to-air weapon for enemy helicopters, even slow-moving aircrafts. The AGM-114 provides high precision striking power especially against helicopters, bunkers, tanks and structures. Due to the fact that it has the capability to be guided by lasers and the precision characteristics, the Hellfire missile is one of the strongest weapon used against any known tank în the world. The Hellfire missile is the United States' and many other countries' principal air-to-ground precision weapon representing the 100-pound (45 kg) class. It's also been used in surface-to-surface and surface-to-air functions on surface platforms. In collaboration with PMA-242, the Advanced Prototype Engineering and Experimentation (APEX) lab at Redstone Arsenal in Huntsville, Ala., exhibited the newest Modernized Hellfire technology for use in close air support and urban operations. For all Services, the APEX lab provides modeling and simulation help.

Oerlikon Skyshield: The Game Changer

Vlad JECU
"Henri Coandă" Air Force Academy, Brașov, Romania

In the last decade, the problematic conditions imposed on short and very short-range air defence became substantially more *intricate. The air threat danger continues to change and propagate, both quantitatively and qualitatively. The emphasis is shifting to unmanned aerial vehicles and precision-guided missiles which are tinnier, quicker, and more precise. Only the most modern air defence systems can counter them. Military and civil infrastructure must be protected as well, particularly from airstrikes. In modern warfare, the threats are highly asymmetric that the attacks can occur at any time and*

from any location, particularly from the air above. The countermeasure becomes more costly because of the high volume of funds invested in the research and development of air combat systems. Therefore, modern air defence systems should be capable of countering a wide variety of threats firmly and at an economical price. Rheinmetall Air Defence AG(RAD) is a company from Zurich that develops and produces ground-based air defence systems, and its portfolio includes a complete range of sensors, weapons and ammunition. RAD defence systems cover principally weapons that can accomplish all types of air missions: target detection, identification and tracking to engagement and neutralization.

AIM - 120C AMRAAM Smart Missiles for F-16 Aircraft

Piotr KACZOROWSKI, Michał KIERNER
Polish Air Force University, Dęblin, Poland

The F-16 multi-role aircraft is designed to perform a very wide range of combat tasks, hence
it constitutes the modern core of the Polish Air Force. The aircraft equipment gives the pilot full situational awareness, which is crucial on today's battlefield. Based on the so-called sensory fusion, it is capable of undertaking a whole range of activities in different types of combat missions. However, it must be equipped an appropriate class
of armament to meet current requirements and be superior to that of a potential enemy. In order to counter enemy aerial attack assets, the AIM-120C AMRAAM medium-range guided air-to-air missiles are of key importance.
The article analyses the characteristics of the above-mentioned missile, which is part of the armament of Polish
F-16s.

Ground-to-Air Missile Architecture MIM-104 Patriot - A Necessary Change in the Modern World

Razvan-Andrei LASZLO
"Henri Coandă" Air Force Academy, Brașov, Romania

In the analysis of the elaboration of any weapon system, starting from the framing of the topic on a fundamental pillar, in terms of opportunity, possibility and economy, certain methods are applied, in general, highlighting the operational research, various methods of mathematical programming with the help of which we managed to optimize not only the solutions but also the road taken in order to obtain them. The forecast of fundamental research, as well as the follow-up and identification with maximum attention of the general technical-scientific progress are considered as a first condition of the success in the rational tendency of the applied scientific analysis and development in the field of missile systems and armament construction.
The research paper uses theories of regional security complexes. Attempts are being made to articulate and clarify military issues by expanding the scope by adding new dimensions other than the classic ones. The aim of this paper is to develop the concept of an integrated theoretical framework for ground-to-air missile architecture. The value of

this research work comes from the desire to include the theoretical aspect by highlighting all the developments that have occurred in the classic concept of armament constructions.

The History of Anti-Aircraft Artillery

Valentin LUPU
"Henri Coandă" Air Force Academy, Brașov, Romania

As technology began to bloom and it led to the development of airplanes which could be used in warfare, armies began to research and develop new weapons to fight against such threats. Thus, as aircraft went from ballons to fighter jets, anti-aircraft weapons went from simple rifles to more complex anti-aircraft artillery and missiles.

MIM-23 HAWK Missile System

Silviu MANOLACHE
"Henri Coandă" Air Force Academy, Brașov, Romania

The evolution of the weapons and defense technology has lead to create a new Ground Base Air Defence system , and after a loat of researched that was the MIM-23 HAWK. The Hawk was the first mobile medium-range guided anti-aicraft missile deployed by the U.S. Army The Hawk system was used by many NATO and other countries later and went through a lot of modification after first model and they improved the system more till it got superseded by the MIM-104 Patriot

The Effects of Aviation Terrorism of 21st Century on the Air Traffic Security

Maria Mădălina MARTIN
"Henri Coandă" Air Force Academy, Brașov, Romania

All of our societies have grown accustomed to the spectre of terrorist attacks in aviation, as they become the most appealing to terrorists in their way to achieve their goals and spread their messages and beliefs. This paper is meant to illustrate the way in which these attacks have changed the measures of security in the air travel industry and to highlight the difference between air transport before the 21st Century and the one from nowadays.

Effectiveness of Chaff

Marios MENELAOU, Mangou AIKATERINI
Hellenic Air Force Academy, Athens, Greece

The supply of consumables on the battlefield as it has been proven from time to time is very great as they can become lifesaving in danger situations. This is why consumables will continue to be in the spotlight for some time to come, which applies to all types of electronic countermeasures such as noise interference systems and mechanical countermeasures.

This paper deals with the area of self-protection of entities that own and use electronic countermeasures, focusing on the factors that influence the effectiveness of chaff. Describes the chaff layout. In particular, reference will be made to a general framework on consumables, and then the chaff project developed in the context of this paper will be presented.
The software that will be presented in this paper can be used directly for the preparation of consumable programs for the self-protection of aircrafts and helicopters and be used directly by the respective air force units.

Alignment System of Two Directional Antennas. Point-to-Point Communications Antennas.

Irina MOROȘAN
"Henri Coanda" Air Force Academy, Brașov, Romania

Antennas have an essential place in various fields of radio electronics (radiolocation, television, and telecommunications). All radio communication devices, regardless of their complexity, consist of transmitting and receiving antennas. The task of a directional antenna is to send and receive signals in a single direction, usually in a very narrow, well-focused beam. Directional antennas are used for long-distance connections because the gain of a directional antenna helps to amplify weak signals.

Microstrip Antenna

Ioana Alexandra MUREȘAN
"Henri Coanda" Air Force Academy, Brașov, Romania

With the rapid development of mobile communication, broadband antenna is urgently needed. Antenna size is a major limiting factor in device miniaturization. To reduce the size, the antenna design is based on microstrip. The aim of this paper is to present a technique for improving the bandwidth of the antenna without a major increase of its thickness.

Analysis of the Classification, Recognition and Identification Process on Targets in Air Defense

Alexandru MUSCALU
"Henri Coanda" Air Force Academy, Brașov, Romania

Radar is rapidly evolving from sensors that detect and track objects to high-resolution imaging sensors with object classification capabilities. This article discusses technologies being developed for air defense radars. The application of target classification, recognition and identification function in fire control radar and multi-function phased array radar supporting missile system is discussed. The main high-resolution techniques used are range profiling, frequency/spectrum analysis and range frequency imaging. A typically measured aircraft image is shown. The maturity of hardware and signal processing techniques to support these modes is discussed. Key technical, operational,

and practical issues driving the design and application of high-resolution modes for these radar types are presented.

Patriot Missile Defense System

Răzvan-Valentin NIȚU
"Henri Coandă" Air Force Academy, Brașov, Romania

The Patriot missile defense system is a ground-based, mobile missile defense interceptor deployed by the United States and many other nations. The Patriot system detects, tracks, and engages UAVs, cruise missiles, and short-range or tactical ballistic missiles.

Fiber Optic Data Transmission

Raluca-Ioana OAIDĂ
"Henri Coandă" Air Force Academy, Brașov, Romania

The military field is one of the most respected fields in our country. It includes several branches, like the Romanian Aviation. Radiolocation is the branch that deals with airspace surveillance and target location. It fulfills its mission with the help of an advanced device, also called radar. Fiber optic cables are inexpensive, thin, light-weight, high-capacity, rugged against attacks, and extremely secure, so they provide the perfect way to connect military bases and other facilities, such as missile launch sites and radar tracking stations. Because they do not carry electrical signals, do not emit electromagnetic radiation that an enemy could detect, and are robust against electromagnetic interference (including the enemy "jamming"), fiber optics are very useful for military purposes.

Applying Artificial Intelligence for Military Classification Tasks Through Universal Machine Learning Workflow

Eduard-Andrei ONOFREI
"Mircea cel Bătrân" Naval Academy, Constanța, Romania

Artificial intelligence is a branch of science that wants to solve the complex problems of the human brain. This characteristic is made by AI through information gathered from human beings and put in math algorithms in a friendly way for the viewer's interface and for the computer's processor. It solves problems that can usually be solved by any person, or almost any person, but in a different manner. This branch is associated sometimes with psychology, cognitive processes, philosophy or biology. All of them combined with IT results Artificial Intelligence. This project uses Artificial Intelligence to find different targets on the sea or in the air and to make a classification of them with the help of a premade database.

Comparative Analysis of Radars Aboard MIG-21 and F-16 Aircrafts

Gheorghe-Florin POPA
"Henri Coandă" Air Force Academy, Brașov, Romania

I chose to talk about this topic because I am passionate about aviation radars, having this as my license topic. Radar technology has become extremely important in today's world because besides the fact that it guides the aircraft and detects the enemy, it also helps meteorologists detect advanced weather patterns to produce the weather forecasts. I want to exemplify and compare the characteristics of two radars of great importance for Romania. These two RP-21 Sapfir and AN / APG 66 radars are used in two unique supersonic aircraft in our country: MiG-21 Lancer and F-16 Fighting Falcon respectively. These aircraft are fighter jets that serve to patrol the entire territory of Romania, and the radars on board help them to intercept any flying object that enters in our airspace, with or without approval.
Thus, given the role of military radars in carrying out various missions, I have chosen to highlight a few aspects in order to create a clear image of what they are and what purpose they serve.

Modern Features of Short Ranged Air Defense Systems

Marius Leon TAMASAN
"Henri Coandă" Air Force Academy, Brașov, Romania

The progress of scientific knowledge and the improvement of military technologies has changed constantly and with the change of the physiognomy of military actions the mobility of troops has increased by equipping them with modern movement technique, the number of structures has decreased with the appearance of weapons with superior technical and tactical characteristics, the efficiency of the actions and blows was increased, especially those executed on the vertical component of the war, and some types of technique appeared and developed with different possibilities, impelling the fight between them. Analyzing the contemporary military phenomenon, one can see a continuous increase in the importance and magnitude of the vertical dimension of military actions, the role of air and anti-aircraft defense in modern warfare. One of the most important means of air defense is short-range air defense systems, which play an important role in combating low-altitude air threats and ensuring airspace security. This paper aims to present the basic characteristics of short-ranged air defense systems and the analysis of some of them.

Study on the Introduction of Intelligent Communication Systems in ASDD Laboratories

Diana-Maria UNGUR
"Henri Coandă" Air Force Academy, Braşov, Romania

This paper focuses on intelligent communication systems, also known as smart devices. The first part of the paper presents the concept of "automation", which means "the use of control systems and information technologies to reduce the need for human work in the production of goods and services". Instead of individual devices that work independently, a smart home integrates several subsystems that are all controlled by a home automation controller. This master controller receives information from all the devices around the house. Alongside the theoretical part, the author is explaining an attempt of starting an intelligent communication system in Air Surveillance and Defense Department. One part of the project reveals the development of an automatic control system, which uses climatic factors such as temperature, humidity and atmospheric pressure. Outputs, based on algorithms among the factors listed above, are driven by motion devices that can be used to automate certain day-to-day activities such as home ventilation. In addition, an attempt is made to attach a colored LED in each room, controlled by a remote control. This paper will also focus on the implementation of the CAN communication protocol via the MCP2515 controller, regarding the parameters recorded by the Arduino Mega2560 development board transferred to another Arduino UNO development board.

3. HUMANITIES & SOCIAL SCIENCES

Conference ROOM E72

Moderators:

Lect Ramona **HĂRŞAN,** PhD

"Henri Coandă" Air Force Academy, Brasov, Romania

Student Diana **BULARCA**

"Henri Coandă" Air Force Academy, Brasov, Romania

Student Alexia **SAVONEA**

"Henri Coandă" Air Force Academy, Brasov, Romania

Female and Male in the Army

Eugenia-Valentina BECHERESCU

"Henri Coanda" Air Force Academy, Brașov, Romania

Why did I choose this topic? Why should certain differences or similarities between women and men be highlighted? It's simple. I have chosen as the object of my study the military, but also the male and female genres because before we form a group or a team we must know each other, individually, to make best use of both our qualities and our defects, to know our needs, but also our strengths, so that later we can complete and form a united group, strong and capable of responding correctly and effectively to the challenges it is facing. It is also very important for this paper to mention that there is no comparison, but an analysis leading to useful and beneficial conclusions, even applicable.

The Hunt for the Bismarck

Andrei BODNARIU, Narcis ANIȚEI

"Mircea cel Bătrân" Naval Academy, Constanța, Romania

The aim of this presentation is to present the history of the famous warship, the Bismarck. We will explain the sequence of events and how they resulted in one of the most well-known war stories. The Kreigsmarine challenged the British Royal Navy over their maritime hegemony, thus starting the Battle of the Atlantic. Grand Admiral Erich Raeder organised "Operation Rheinübung" – a great raid of the Allied supply convoys. This mission was led by the pride of the German Navy, the Bismarck, under the command of admiral Gunther Lütjens. Prinz Eugen and the Bismarck passed through Kattegat towards the Denmark Strait. There, the Germans engaged the HMS Hood and the HMS Prince of Wales. The British Navy pursued the Bismarck on the Atlantic, and managed to intercept the Germans near the French Coast. As a result of the skirmish, the Bismarck was sunk, after 8 days of fighting, just a few hundred miles away from the safe zone.

The Effects of Terrorist Attacks on Politics

Valentin-Robert BROASCĂ
"Henri Coandă" Air Force Academy, Brașov, Romania

This paper aims to explain the concept and origins of terrorism, how communication between terrorists happens in the age of terror, and how new terrorism developed throughout the process of globalization. I also highlighted how much influence terrorism has in politics, in regional stability, followed up by the conclusions.

Fake News and Misinformation in the Age of the Masses

Mihai-Darius CEPRAGA
"Henri Coandă" Air Force Academy, Brașov, Romania

Television news has become an extremely controversial topic in recent history, in the sense that the audience cannot differentiate the truth from the lie. The masses of consumers are lost in false details and in titles meant to attract attention and arouse a lot of feelings. The misinformation of these masses is taking on new, alarming dimensions.

The Inferiority and Superiority Complex by Alfred Adler

Andra-Maria CERNIAVSCHI
"Henri Coandă" Air Force Academy, Brașov, România

Have you ever seen a person and thought they might have a shortfall in terms of self-esteem? Or have you ever seen someone acting like they are the most important ones on the earth and nobody is worthier? If so, you are already aware of these two complexes: the inferiority and superiority complex, also known like a cause and its effect. Nowadays there are a lot of people led by their need to impress others, to fill out an empty space which occurred as a result of an inferiority feeling. This paper is meant to demolish the myth that a man who introduces himself in front of the other persons as a superior actually shows his truly face.

Naval Superstitions

Andrei-Viorel CHIRU, Ioan-Lucian DĂNESCU
"Mircea cel Bătrân" Naval Academy, Constanța, Romania

Sea voyages have required not only skill and bravery, but also the ability to balance the fine line between faith and fate, since the early days of pirates, fishermen, and sailors. Seafarers devised rituals to channel good luck for safe sailing or to fend off bad luck for disasters at sea, as humans have often tried to make sense of the unfamiliar for comfort. Superstitions are firmly ingrained in human existence, from urban mythology and folklore to old wives' tales and traditions. Whether one believes in superstitions or not, the following legends and myths convey tales of treacherous marine life while demonstrating that humanity are inextricably linked to the ocean's mysteries.

Women in Combat

Isabela CÎRSTEA
"Henri Coandă" Air Force Academy, Braşov, România

Although claiming to represent the views of military women on the combat exclusion policy, feminist activists actually represent only a minority of Army women. Most women soldiers do support opening the combat arms to women, however only on a volunteer basis and with physical qualifications for those jobs. Most Army women are not interested in serving in the combat arms, and roughly half do not believe they would be capable of doing so. A gap exists, then, between activists who deny differences between men and women and seek to bring women's policy in line with men, and women soldiers who support greater opportunities for women but who do not perceive most women as equally qualified for the combat arms as men. Furthering the gap between these activists and much of their constituency, the feminist framing of the debate has neither been tailored to fit the specific nature of the military as an organization (one which does not value individualist perspectives) nor the particular circumstances of the lives of military women (particularly enlisted and/or minority women).

Aviation Safety in Aeronautical Activity

Claudiu COMAN
"Henri Coandă" Air Force Academy, Brașov, Romania

Aviation safety prevents any factors that may adversely affect aeronautical activity while preventing a catastrophe. Pilots are the most prone to error, so their training, physical and mental condition must be in optimal parameters. In addition to civil aviation, military aviation places a strong emphasis on safety because military pilots, in addition to transport missions where they have to transport personnel or equipment safely, also carry out combat missions with weapons, where a small mistake can lead to disaster. Safety Culture can have a direct impact on safety performance. Safety culture is the way safety is perceived, valued, and prioritized in an organization, reflecting the real commitment to safety at all levels.

The Impact of Nutrition and Fitness on Military Resilience

Alex-Giulian COROI, Constantin-Adelin CHELARIU
"Carol I" National Defense University, Bucharest, Romania

A crucial requirement for the armed forces is the efficient training of the military troops to act anywhere at anytime. In a wartime military conflict, they face various dangers and risky situations, which will leave marks on their physical and mental health, leading to psychological degradation. Damage to the integrity of the individual can be mitigated by developing resilience, the capability that enables the warfighter to resist, recover and cope with stressors and a variety of physical and mental demands. The level of resilience of warfighters can be maximised both physically and mentally by paying particular attention to the areas of nutrition and fitness.

The Role of Stereotypes and Symbols in Shaping the Public Image of the Romanian Soldier

Monica CRIHAN
"Henri Coandă" Air Force Academy, Brașov, Romania

Symbols and stereotypes are being used by human kind from time immemorial. In the context of military culture, our article aims to present and analyze the role of military symbols and stereotypes and manner in which they can reflect and influence the public image of Romanian soldier. Our research starts with a theoretical approach of the two aspects, as a reflection of culture in general, and then as a reflection of military culture, in particular. The main body of the article consists in identifying and analyzing a series of different symbols' and stereotypes' exemplification. The examples provided in this paper are meant to emphasize the topicality and the relevance and importance of military symbols and stereotypes for military and public opinion, considering the public image of the Romanian soldier.

Futurology – Forecasting Future

Georgiana-Cătălina CRISTEA, Paul ILIȚOI
"Mircea cel Bătrân" Naval Academy, Constanța, România

This paper aims to give an insight into Futurology, the science assigned with predicting future, based on patterns and other techniques. In this respect, this paper comprised information such as, definitions, a short history of Futurology, futures techniques, examples of iconic futurists, along with their publications, and a short analysis of their prediction's accuracy. Moreover, in this paper, our personal approach regarding this discipline can be found, more precisely, a short opinion on the future prediction's impact in the military domain.

Adaptation to the Military Environment

Dănuț Gabriel FOLFĂ
"Henri Coandă" Air Force Academy, Brașov, Romania

Imposing a model of behavior and a certain type of personality, standardized by regulations, orders, laws and the military environment exerts from the outset a strong influence on the personality of students, intending to moderate it by the requirements and missions that they will have to accomplish during their career. The formation of the new type of personality and the new model of behavior presupposes above all the adaptation of students to the military. The process of adaptation is unitary and it concerns three aspects: physiological, psychological, and social and the coefficient of adaptability increases if a certain priority is respected in the realization of adaptive structures for different areas of the military environment and if certain enabling factors – motivation, social support, cohesion, trust in leaders and progressive forces exert their influence.

Safety Climate in Military Organization

Flavius-Marian HEROAICA
"Henri Coandă" Air Force Academy, Brașov, România

The main interest of this article was to discover the climatic elements that could have a positive influence on the members' decisions. Thus was born the safety climate principle. Aviation is one of the most complex structures which require the continuous and safe cooperation of all members of the organization. Moreover, in aviation, the pilot's decisions could represent the image of an entire climate. An unsafe climate can lead to a catastrophe. This is in fact the reason for which the pilot is the person who is the most subject to the climate effects in aviation. The purpose of the present study is to examine the problem of the safety climate with regards to the military aviation environment.

The Relationship between the Physical and Mental Condition of Pilots

Eduard NECULAU
"Henri Coandă" Air Force Academy, Brașov, Romania

Mental well-being and absence of mental illness are essential to the safe performance of pilot and aviation safety. Mental health is influenced by various personal and occupational factors. Most mental disorders are probably related to depression, anxiety, and alcohol and drug dependence. (the Professional Practice Board of the British Psychological Society, 2016). Being labelled with a "mental health problem" in aviation might have consequences, including stigma and discrimination (perceived and real); grounding; additional costs, including costs associated with examinations and treatment to obtain/maintain medical certification; loss of income; and fear of loss of employment. (Dr Ansa Jordaan, 2016). The purpose of the present study is to examine the relationship between the physical and mental condition of pilots.

Mayflower and Her Story

Denisa PETER, Cristina TAIFAS
"Mircea cel Bătrân" Naval Academy, Constanța, Romania

Mayflower was an English ship that sailed from England to the New World in 1620, carrying a group of English families who became known as Pilgrims. On November 21, 1620, Mayflower, with 102 passengers and a crew of about 30, arrived in America after 10 heavy weeks at sea, dropping anchor near the tip of Cape Cod. Pilgrims wanted to arrive in America by early October with two ships, but due to delays and problems, they were only able to use one, the Mayflower. They arrived in November and had to face a difficult winter unprepared. The following year, the colony's 53 survivors, along with 90 Native American Wampanoags, celebrated the colony's first fall harvest, which was eventually named the first American Thanksgiving Day. Pilgrims composed and signed the Mayflower Compact before landing the Mayflower, an agreement that formed a core government in which each member will contribute to the safety and well-being of the

planned settlement. The ship became a cultural icon in the history of the United States, being one of the first colonial warships.

Decision Making for Helicopter Pilots

Dan-Cătălin PLEȘA
"Henri Coanda" Air Force Academy, Brasov, Romania

The decision is the result of conscious activities of choosing a direction of action and engaging in it. The decision belongs to a person or a group of persons who have the necessary authority and who are responsible for the use of resources in certain situations. The right, valid reasoning and the ability to make good decisions in a timely manner are qualities that a pilot must develop. They can be learned. Wrong reasoning, erroneous decisions or indecision (indecision) are the major causes of aviation incidents and accidents to a greater extent than poor flight qualities or abilities. In some situations, the current decision is not so important as the one already made.

Loral Symbolism in the Military History

Ana-Maria POSTOLACHI
"Mircea cel Bătrân" Naval Academy, Constanța, Romania

This paper is about the floral symbolism in the military history and how the meaning of flowers has changed. It is the responsibility of the ones who survived or are still alive to learn how to honor the fallen soldiers, and flowers can be one way to do so.
Firstly, the paper will present why flowers are no longer seen as a mark of feminism. Secondly, will be introduced the most popular flowers, more precisely their meanings and the story behind each one of them. The focus will be on the red poppy because it is the most frequently used when commemorating the fallen. Next in line will be the daisy and the maple leaf.
Last but not least, this paper will take into consideration - from a personal perspective – the peony, our national symbol and why this flower is our country's emblem.

Reaction Time and Information Processing Rate of Helicopter Pilots in Flight

Bogdan-Alexandru PRIPON
"Henri Coanda" Air Force Academy, Brasov, Romania

Reaction time and information processing rate are cited as critical components in pilot composition. The need to establish the validity of different timing measures in the selection of pilots has been identified. We will analyze how to react to stimuli through two of the five human senses: the sense of sight and the sense of hearing. Following these, we will analyze the competence or success of a helicopter pilot in making the right choice, depending on the skills required, the fast and efficient processing of information and the fast and accurate reaction time.

Dealing With Stress as a Flight Operations Officer

Noémi Anna RÁDULY
"Henri Coandă" Air Force Academy, Brașov, România

Everyone needs a little stress in their life to perform. A musical instrument without enough tension it goes seriously off tune, but too much stress or tension and the string could snap. It's the same thing with our bodies. The trick is to keep stress under control and in balance. This paper focuses on the stressors involved with this field of work, including time constraints, isolated working spaces, having to make multiple safety decisions in quick succession and intensive work schedule.

The Influence of Psychic Complexes in the Formation of the Fighter

Lavinia Ionela ȘTEFAN
"Henri Coanda" Air Force Academy, Brașov, România

The psychic complex is the image of a psychic situation, with a strong internal cohesion and a deep emotional load which, for that very reason, is incompatible with the usual conscious attitude. The fear of complexes is the reason that determines the conscious to accept the complexes as his own activity. The complexes belong to the psychic constitution, which is an absolute fact, previously awarded to each individual. Self-esteem is strongly associated with the relationship between self-conception and the ideal self. Self-discrepancies are a measure of self-esteem, that is, the distance between the concept of self and the desired self. Self-confidence is a key element in defining an individual's personality as well as his interpersonal and social behavior.

Conspiracy Theories between Fact and Fiction

Raul-Sebastian TRAICA, Mihnea-Alexandru MOISE
"Mircea cel Bătrân" Naval Academy, Constanța, România

Conspiracy theories are a part of the world because different people may have different perspectives on several events that occurred and believe that someone or something is behind them.
Firstly, this paper will point out four of the most popular conspiracy theories: the assassination of JFK, the Apollo 11 mission, the 9/11 tragedy and the Coronavirus.
Secondly, the paper will show some information about every event and it will try to show the truth about what happened, pointing out for and against arguments.
In the end, the authors of this paper will formulate their opinion on the matter.

Military Training between Hazing and Excellence

Mihai-Dănuț TIMOFTE
"Mircea cel Bătrân" Naval Academy, Constanta, Romania

Anyone who is in their country's defense service may experience hazing at one time or another in their military career. This is why this paper includes a personal standpoint on

the hazing in the army. Firstly, a general and personal definition of hazing will be given; more precisely, what this concept is and whom it impacts on. Secondly, the classification and several real examples of hazing will be presented. Thirdly, the differences between hazing, bullying, extra military instruction will be pointed out together with methods to prevent such practices.. Also, the impact of hazing seen from my personal view as a military will be highlighted. Finally, a solid conclusion will be drawn showing how easy it is to notice and to prevent hazing.

Sea Creatures and Their Stories

Elena-Andreea ZVÂNCĂ, Leonte-Laurențiu RADU
"Mircea cel Bătrân" Naval Academy, Constanța, Romania

The underwater life is one of the unknown worlds that fascinates everybody from ordinary people to famous artists and scientists. It hides a lot of secrets, rumors, history and future. As midshipmen, we are expected to have a great vision about seas and oceans. It is our duty and wish to discover the underwater world and this paper aims to increase knowledge about aquatic creatures and to answer to the rumors and legends of the sea.

Conference ROOM E78

Moderators:

TA Kinga **KOLUMBÁN,** PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Student Andra **ÎNSURĂŢELU**
"Henri Coandă" Air Force Academy, Brasov, Romania

Student Nadia **PETRUSE**
"Henri Coandă" Air Force Academy, Brasov, Romania

Case Study: The Importance of Leisure Time With Extra-Curricular Activities in the Life of the Military Student

Laura-Nicoleta ANTOCHI
"Henri Coandă" Air Force Academy, Braşov, Romania

The world exists in time and space. Although many theories claim that time is a man-made concept and that it does not exist in nature in the formula in which we measure it, this notion remains a mistery for any researcher, being a complex notion and too difficult to capture into words and scientific theories. In this context, it is not a surprise that time became a central topic over time, to which researchers repeatedly returned , trying to redefine it by reference to the latest elaborated theory. Only when we ask ourselves what is time, our mind is flooded with ideas and ambiguities which are more and more abstract and difficult to understand.

The Value of the Humanities and Social Sciences

Radina BODUROVA
"Georgi Benkovski" Air Force Academy, Dolna Mitropolia, Bulgaria

Nowadays, the humanities and social sciences stand next to other subjects included in the education system. Many adolescents who study them do not understand why they need them, but with age they realize the importance of these sciences. They teach us how to behave in society, how to treat relatives and friends, how to resolve conflicts and misunderstandings. Apart from helping us to love our own culture, they also show us that of other countries. We know our history and understand why we should be proud of our nation and our country, because a country is built on its history, language and culture. The study and especially the understanding of the humanities and social sciences is a very important part of the educational process and the building of the human personality. The acquisition of all these qualities significantly contributes to our realization in the future, and we can find motivation to realize ourselves in the so-called Pyramid of Needs. Unfortunately, during a period of pandemic in which we are, the possibilities for real

communication are limited. Communication takes place virtually, which in turn prevents the application of learned information. As a result, there are a number of difficulties in the further development of the personality. Despite the situation we are in and the difficulties it creates, the humanities and social sciences, like all other sciences, help in the process of discovering the vocation of the individual.

Efficient Learning

Lucia Bianca Loredana BOROTA
"Henri Coandă" Air Force Academy, Brașov, Romania

A major role in today's survival run is played by our capacity to learn and adapt to each situation. The author of this research paper reviewed books and articles, along with internet resources on processes of learning. This paper illustrates the importance of knowing how the human brain and memory works, its needs of sleep and nutrition, also presenting types of memory which are engaged in learning. Some couples of advice are conferred to handle, understand and memorize voluminous materials. A short analysis was made to observe a diverse group of students at a military academy by evaluating their response to learning related questions. The emphasis is on academic performance rather than military instruction and training.

The Hidden World under the Sea

Anné-Lise Laolia BUZNĂ, Mihaela Aurelia DRĂGAN
"Mircea cel Bătrân" Naval Academy, Constanța, Romania

The world under the sea. What mysteries does the sea hide? How many things are waiting there to be found? Is there history on the seabed? These are just a few questions whose answers we will find in the following pages. Firstly, we will swim through the great coral barrier watching the seabed come to life among the rainbow of colors. Then, we will get to know the inhabitants of the sea and we will find out how they live and coexist together. As appearances deceive, the little colored creatures hide more than an exceptional beauty and a gentle appearance. They can be very dangerous. Finally, the sea buries more history than we will ever know. Wrecks, sunken cities, statues and treasures waiting to be rediscovered. Do we know enough to sink into the marine universe? Embark on a journey with us and you will find the answer to this question and some of the secrets of the underwater world.

How Civilians Perceive the Military Personnel

Elena-Arina CIOBOTAR
"Henri Coandă" Air Force Academy, Brașov, România

The present essay reflects several series of common thoughts or beliefs, but some of them may not accurately present the reality. Nowadays a multitude of preconceived ideas that involves army forces whether visible and invisible appear among those who have little or no knowledge of this subject. Overall, there exist varied and nuanced perceptions of military personnel, with elements of hero, victim and villain dominating in different

questions. Soldiers still have a strong hero narrative, as seen by their high rating. According to polls, army is a source of national pride.

The Role of Armed Forces in the Covid-19 Pandemic

Mihaela Bianca DRĂGAN
"Henri Coandă" Air Force Academy, Brașov, Romania

The COVID-19 pandemic impact all the world, including healthcare systems, governments and society. The military played an essential role in the normal course of events during the COVID-19 pandemic, by engaging in multiple operations of humanitarian assistance and support of the society organizations. The help of the armed forces affected the spreading of the virus and kept it under control as much as possible, so the health system could manage all the new cases that appeared every day.

The Great Emu War

Robert-Stefan IACOB, Cosmin DUMITRU, David-Nicholas MIHALCEA
"Mircea cel Bătrân" Naval Academy, Constanța, România

Man against beast is one of the oldest confrontations the Earth has known so far. Even from the beginning of times, man fought for survival with the previous kings of the land like dinosaurs and other beast alike until we took their place at the top of the food chain. But what happens when the balance shifts again in their favor? What happens when their number starts to threaten humanity.... or at least one nation? What happens when one specific race of birds goes rogue? For those of you who don't know, we're here to tell you. This is the Great Emu War.

Execution and Coordination of a Search and Rescue Mission (SAR)

Cosmin Daniel ILIE
"Henri Coandă" Air Force Academy, Brașov, România

The next paper aims to study a search and rescue mission of a civilian aircraft. Due to the vastness of this mission, it follows that bonds must be very well divided. Specifically, the work is oriented to analyze how the ministries that are responsible for completing a successful mission are actuated. The purpose of this work is to demonstrate the effectiveness of coordination between: the Romanian Naval Authority, the Ministry of National Defense and the Ministry of Internal Business. As well as coordinating their own subunits to increase the success rate of missions with the help of the techniques and facilities they have. The mode of action must be when more precise, so the plans of the SAR missions are as up-to-date as possible, rising to the level of the developed countries.

Strategies of Facilitating the Activity of Air Traffic Controllers

Elena-Bianca IORGA
"Henri Coandă" Air Force Academy, Brașov, Romania

Managing the requirements of a job such as directing aircrafts can be fully related to stress. Some of the strategies that can lead to good results at the working place are the

capacity to focus over repetitive tasks and the will of developping action strategies. A controller also needs good communication skills and basic notions of leadership in order to perform his duties.
When it comes to maintaining his physical and mental health in good parameters, the main solution would be managing stress by creating a balance between personal life and work. Other solutions are keeping himself active, asking for support from his relatives and friends and giving a meaning to what he does.

Solidarity and Discord in Today's Romania

Dana-Maria LATU
"Alexandru Ioan Cuza" Police Academy, Bucharest, Romania

This paper aims to draw attention to the importance of understanding the emotional dimension of man as an individual and as a group, as well as their role in the relationship with the state authorities. Man, as a social being, is programmed to live in society, but the relationships between oneself and others depend on certain psychological predetermination, as well as on how one's mind is programmed to respond to external stimuli. Information, the most powerful tool of our day, can be used both to unite and to divide. Therefore, it is important to observe how information can be used to influence a person and the consequences of not knowing how it works.

Invictus Games – The Power of Sport

Gabriel-Marian LEIZERIUC, Alexandru Stefan BEREA
"Mircea cel Bătrân" Naval Academy, Constanța, România

„This is the spirit of Invictus. Never quit. Even if you are down – get up and continue your race."
(Competitor, Romanian Team)
This paper refers to Invictus Games, a completely unique competition that not only defines the foundation of the sport but also shows that the impossible can become possible. The presentation will begin with an introduction in which we explain the reason for our choice of topic, followed by a short presentation of the history and traditions of this extraordinary competition, starting from the founding fathers and continuing up to the present time. We will also refer to the motivation that emanates from this competition, which is a living proof that if one strongly wants to do something, nothing will stop them. At last, but not the least, we will try to convince and motivate everybody to find out more and to spread the word about these people who are living heroes and true role models.

Depression of Aeronautical Staff

Maria Ivona MOGLAN
"Henri Coandă" Air Force Academy, Brașov, Romania

When it comes to aeronautical personnel, attention and the power of concentration are the most important weapons for performance to be achieved. In general, the depression

of aeronautical personnel is the starting point of a large research study. Prolonged research into the effects of fatigue brings a major benefit to scientists who are looking for the best solutions to the factors that most often trigger depression among aeronautical personnel. Such an approach seeks to progress, remedy or reduce the occurrence of fatigue management events, such as accidents, incidents, injuries and, more broadly, damage related to the operation and maintenance of normal air traffic control activities. This paper presents the results of collecting and systematizing the factors that can trigger stress and depression among pilots, air traffic controllers, meteorologists, and last but not least, staff officers. The study includes an analysis of several moments in which the aeronautical personnel encountered less pleasant situations, these resulting in the installation of depression, but also methods to prevent errors that lead to degeneration of situations or avoidance of aeronautical catastrophes.

The Benefits of Using the Simulator During Military ATC Training

Bogdan-Mihai MUREȘAN
"Henri Coandă" Air Force Academy, Brașov, Romania

The ATC has a critical job in aviation safety. The air traffic controllers have the important job of fitting as many aircrafts in given airspace without collisions. Simulation-based training is the safest method to teach new recruits the art of air traffic controlling. In this paper I will focus on how simulation-based training can improve overall ability of the ATC.

The Role of the English Language in Terrorist Propaganda

Teodora NUȚĂ
"Henri Coandă" Air Force Academy, Brașov, Romania

Terrorism represents an unlawful and strategical use of violence to achieve political, ideological or religious desideratum of a group or organisation. The concept of terrorism is widely known. Even though the term was earliest coined in the 1st century, the political experts are still discussing about it at the moment. The following article analyzes the role of the Internet in shaping the language of terrorist propaganda, the reasons why, as a global language, the language of 'the enemy' becomes the linguistic expression of choice. It provides an overview of English-language magazines, Internet articles and video materials, but also an interpretation of great terrorist leaders' discourse, regarding vocabulary and semantics.

The Origin of English and Its Accents

Gabriel POPA
"Mircea cel Batran" Naval Academy, Constanta, Romania

This paper aims to bring to your attention some differences in the English language in terms of origin, accent, and dialect. The English Language is the most spoken language in the world, some places being native to it, some being colonized by the British Empire or simply adopting it for external affairs. Spoken English is abundant in accents and dialects such as Welsh, Irish, Australian, American, and many more according to the place the

language is spoken. First, we are going to talk about the origin of the English language, its development, and its spread. Then, we will get deeper into the subject, accents, and differences, why they exist, and how they evolved.

To Tattoo or Not to Tattoo? An Investigation into Tattooing in the Military

Valeriu ROȘU
"Mircea cel Batran" Naval Academy, Constanta, Romania

Tattoos represent a unique way of expressing yourself to show other people your passions or beliefs; they are also a way of keeping in your memory either a moment in your life forever or someone/something that you hold dear. Most tattoos come from the desire of a person's thirst for self-expression and freedom.
Firstly, this paper will point out the definitions of key terms such as: tattoos and regulations.
Secondly, it will present a brief history about tattoos in the Navy, after that the paper will show military regulations across all military branches and especially in the Navy. A brief comparison between the Navy and the other branches will also be made. The comparison will be about which body parts tattoos are accepted in the military. Next, it will contain a personal opinion, in the form of a personal story. Last but not least, the paper will illustrate several pros and cons of getting a tattoo. In the end, this paper will answer the question "To tattoo or not to tattoo?"

Cultural Heritage: Arabic Civilization

Alexandra STAVRE
"Alexandru Ioan Cuza" Police Academy, Bucharest, Romania

Every time it snows, we try to catch snowflakes on our coats. This proves to be rather difficult, but when we do get them, we catch a glimpse of them before they melt away. We simply remain mesmerized by their outlines, even for that brief moment. However, that one snowflake that we catch is totally different from the others. Simply put, they are not the same. But, they do get on the same ground and create the same coat of snow. We could say the same thing about us as individuals that are gathered in different nations. We have our cultural differences that make us unique. Yet, we inhabit the same world, a world coloured with our own characteristics. These are not to be seen as walls between our societies, but as strong links based on mutual respect and acceptance. Thus, the first step we need to take is to learn about other countries around the world, as they are, simply put, beautiful. One perfect example for this is the Arabic culture, a culture that has impressed the world throughout centuries.

Surviving Against the Odds - The Siege of Jadotville - Reality and Depiction

Ovidiu SZABO
"Henri Coanda" Air Force Academy, Brașov, Romania

This paper focuses on the differences between the historical reality and the cinematic account of an incredible Irish battle. In addition, it describes how the decisions of senior United Nations officials influenced history and a company's legacy.

Military Socialization

Balázs SZEGEDI
National University of Public Service, Budapest, Hungary

The purpose of this paper is to present the basics of socialization and the process of it among military organizations. The flexibility and adaptiveness of a person can change due to the requirements and to the characteristics of the organization. In a multinational military organization in order to carry out missions successfully there must be strict rules and regulations implemented and regular medical checkups. Furthermore, there must be a way to punish and reward individuals based on their performance. The understanding of military socialization can serve as a foundation for recruits to adopt the military lifestyle and military characteristics. In this paper I find it important to unfold the thematically structures of organizations and the most common cases when a recruit need to adopt to their teammates and critical situations.

Trolley Problems in 'Eye in the Sky': A Theoretical Perspective on the Etics of Military Decisions

Andreea TĂNASE
"Henri Coanda" Air Force Academy, Brașov, România

Next to practicing medicine, participating to military opperations is not a job for everyone, expecially for the ones 'weak-kneed'. 'The trolley problem' and their versions that had beed reproduced in the movie shows how hard it is to take responsability of an inevitable decision. The purpose of this analise is to question the good and the bad, as they are presented the movie 'Eye in the Sky'.

Case Study: The Psychological Profile of Pilots

Elena-Delia URBAN
"Henri Coanda" Air Force Academy, Brașov, Romania

"Pilots are a rare kind of human. They leave the ordinary surface of the world to purify their soul in the sky, and they come down to the earth only after receiving the communion of the infinite." (Jose Maria Velasco Ibarra, former President of the Republic of Ecuador). I wanted to begin this paper with a quote about pilots because there is so much to say about them and what best possible way I could find other than giving a sentence that is worth a thousand words. That being said, a pilot is the kind of person who knows about

his limits and is willing to overcome them. "Everyone has oceans to fly, if they have the heart to do it. Is it reckless? Maybe. But what do dreams know of boundaries?" (Amelia Earhart, American aviation pioneer and author). Another quote that must be mentioned is this one, belonging to the first female aviator to fly solo across the Atlantic Ocean. From this phrase it is understood that a pilot can't be a pilot without assuming risks. This is the most important part of working in the aviation and I will talk about it in the chapters below. In this essay, I will talk about a pilot's essential traits and manners in order to help the pilots in the training process to eliminate toxic behaviors and to emphasize those which help them evolve. This is important in the aeronautical activity because in this way, human errors may be diminished or even removed. Without further ado, this project is meant to help student pilots to focus on developing their skills for the purpose of being second to none in the area they have chosen.

A Prayer for Chernobyl

Nikita-Sabina URSU
''Henri Coanda'' Air Force Academy, Brasov, Romania

The purpose of this paper is to provide information about what actually happened at Cernobyl before and after the explosion and how it affected the living population.
For providing truthfulness to the article here will be illustrated some confessions of people coming from diverse social blankets and with different levels of education. The main point is to frame the measurements that were taken and their consequences. After the cataclysms, the soviets had to focus their attention concomitant on the explosion and also on keeping the witnesses silent.
The references from the article war carefully selected from Svetlana Aleksiyevichs' book, ''A prayer for Cernobyl''.

Women in the Red Army: Front Lines, Home Front and Propaganda

Teodora VLĂDESCU
"Henry Coandă" Air Force Academy, Brașov, România

This article is a brief exploration of the complex and multifaceted phenomenon of soviet women entering the military in the context of World War II. This matter is a link between the old and conservative way of thinking and the present days where women have freedom and equality for the most parts, not only in the military, but also in the work field. The aim is to analyze the course of events in which women achieved notable roles during the war, but they also faced hardships, misogyny and distrust. From the early stages of the war to even participating in the saving of Stalingrad, the female face was more and more involved in the soviet propaganda that created a strong, patriotic women when it was needed and then, a nurturing stay-at-home mother when the guns went silent.

4. Fundamental Sciences & Engineering

Conference ROOM E45

Moderators:

Assoc. Prof. Eng. Doru **LUCULESCU**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Lect Bogdan **MUNTEANU**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Student Elena **DOBRE**
"Henri Coandă" Air Force Academy, Brasov, Romania

Student Andrei **GRAUR**
"Henri Coandă" Air Force Academy, Brasov, Romania

Enhancing the Security of a Network by Removing Trackers and ads with Raspberry PI

Alexandru-Ionuț BADEA
"Politehnica" University of Bucharest

This essay shows how can we use the Raspberry Pi with Raspberry Pi OS (Raspbian) in order to block ads on any local network, ads that randomly appear on Google search, YouTube, online stores and basically all websites, along with restricting the trackers that advertisers use to target ads based on what websites we access, what products we're looking for on the internet, what videos we're watching online and so on. This is a very simple, cheap and effective solution, as it won't affect the network performance and QoS overall.

The Wind and How it Influences the Flight of the Aircrafts

Loredana-Ioana BENEDEKFI
"Henri Coandă" Air Force Academy, Brașov, România

The main purpose of this article is to highlight the major influence of the wind on certain types of aircraft. Weather conditions play a very important role in aviation in terms of ensuring the safety of the flight. The wind influences both the take-off and the landing of the aircraft, along with the air temperature and the dew point temperature, and is one of the parameters that the air traffic controllers must take into account in the aeronautical

activity. "Can the wind cause aeronautical accidents?". Compliance with the warnings given by meteorologists creates a safe framework for aeronautical activity and their consultation in situations of unfavorable weather leads to the prevention of aeronautical disasters. Analyzing the parameters and criteria of take-off and landing of certain aircraft we will be able to establish in which intervals of the direction and speed of the wind it does not significantly affect the aeronautical activity.

Primary Flight Display (PFD) and Electronic Attitude Direction Indicator (EADI)

Angel Nicușor BUZEA
"Henri Coandă" Air Force Academy, Brașov, Romania

The PFD is flight instrumentation that displays all the necessary basic data that the pilot needs to fly. It was developed based on 'the basic six' in order to support the glass cockpit concept. Multiple sensors send data to a central computer which processes it, then displays it for the pilot's use. EADI and the Electronic Horizontal Situation Indicators (EHSI) are part of the PFD. Although the layout of the display is different from manufacturer to manufacturer, the main data layout is always the same. The only possible issue with it consists of its failure.

Aircraft Engine Design

Mihai CIOCAN
"Henri Coandă" Air Force Academy, Brașov, Romania

The main purpose of this article is to ilustrate the overly complex process of developing and designing an aircraft engine and how the principles, of which the engineers have been guided, have changed to meet the need of the aircraft requirements of that generation. This paper will present the approach to the engine cycle design and how the analysis of different parameters is done to ensure the safety of the components. Over the last century of innovation in propulsion, the architecture of the engine has updated to fulfill the demands to provide the necessary power of the aircraft. This machine is the cornerstone techonlogicaly advanced society and comes in a variety of forms, such as the turbofan, turboprop, turbojet and afterburning turbojet. With such diversity of engine layouts, the most appropriate for a give task cannot be established without going through the design process.

Aerodynamic Analysis Regarding Performances of Aeroprakt A-36 Vulcan Aircraft

Alexandru-Ioan CIUR
"Henri Coandă" Air Force Academy, Brașov, Romania

The objective of this study is to emphasise particular characteristics of the newest Aeroprakt aircraft, the A-36 Vulcan, through two points of view: engineering progress and transposing those geometric characteristics into aerodynamic statistics by analysing them

in XFLR5 app. Even though there are not many aircraft produced, this type points aerodynamic progress, being the successor of A-26 Vulcan model and, thus, overtaking it.

Helicopter`s Main Rotor System

Ioan Adrian COMȘULEA
”Henri Coandă” Air Force Academy, Brașov, Romania

The helicopter is a rotary wing aircraft. This means that it produces its lift and thrust by spinning two or more blades on the horizontal axis. It can take off and land vertically, hover, fly forwards, backwards or sideways. These qualities allow it to be used in small spaces or crowded areas. The helicopters with one main rotor is by far the most common arrangement used. Every main rotor is composed from a mast, a hub and rotor blades. The mast is a cylindrical shaft that extends upwards and is supported by the helicopter`s main gearbox. The hub is the attachement point of the blades with the mast. The ways in which the blades are attached to the hub represents the type of the rotor. In this sense, we can differentiate between three main types: semirigid, rigid and fully articulated rotors.

Innovative Methods to Achieve Thrust Vectoring

Ionut-Vladut COVACI
“Henri Coanda” Air Force Academy, Brasov, Romania

Since the second half of the last century, the thrust vectoring of aircraft has been a subject that has interested many aviation engineers. After various studies and experiments that were materialized by aircraft prototypes, some variants of vectoring were developed and are still used today on military aircraft. Although these constructive variants of vectoring systems were tested, with the passage of time they proved to be expensive or were not able to achieve the required performance during flight, some of them considerably reducing the thrust. The aim of this paper is to present innovative vectoring methods which, in addition to low maintenance costs, offer superior characteristics to the methods already used to achieve this phenomenon. Although these methods have not reached the maximum level of exploitation, they are very promising because of the new technology and principles they use.

Hydrometeors (Condensation Products)

Iuliana-Georgiana DOBINCĂ
”Henri Coandă” Air Force Academy, Brașov, Romania

The aim of this article is to understand how hydrometeors can affect a region in which they are formed. I chose the Northern region of Moldova, more specifically, I will interpret the data from the station named Suceava, a statistic from 1961 to 2009, with the related conclusions. This statistic over a period about 50 years has a result in understanding advantages and disadvantages that these phenomena produce in that region. The practical and theoretical importance of deducing weather forecasts and knowing the weather is so obvious and necessary that we can say that weather stations have a

beneficial role in providing the data needed to prepare a weather report. Although, these meteorological stations are not uniformly arranged on Earth due to the aquatic surfaces that significantly determine the meteorological forecasts, humans need these observations and measurements to be made and interpreted. Meteor is a phenomenon observed in the Earth's atmosphere that contains precipitation under various types (liquid, solid or mixed). It includes the following types of hydrometeors:
1.Dew
2.Hoarfrost
3.Rime
4.Fog

Multi-vectorial Analysis of Unmanned Aerial Vehicles

Andrei-Valentin DOBRIȘAN
”Henri Coandă” Air Force Academy, Brașov, România

The air defense is a very important element of armed conflicts. Unmanned Aerial Vehicles are very important nowadays because of the big flexibility they have and the multitude of missions they can be used in. They are better in many missions then the manned aerial vehicles due to the fact that they do not endanger the human side, protecting them from the possible threats. The UAVs can complete the missions where the human part is the limiting factor that can led to the inability to fulfill the mission. To know what is the best UAV to buy you have to make decisions. To help make the decision we need to make an advanced comparison between them. Advanced multi-vectorial analysis is the analysis we will use to make a list of the best UAVs for our armed forces to buy and use in missions.

Performance Analysis of LET L-13 Blanik Aircraft

Andrei Cătălin DRAGOMIR
”Henri Coandă” Air Force Academy, Brașov, România

The purpose of this project is to analyze the LET L-13 Blanik aircraft, taking into account not only its 2D profile, but only the 3D one. This aircraft is a two-seater trainer glider produced since 1956 by Let Kunovice and is currently the most used glider in the world.

Autodesk Fusion 360 Software in the Cinematic Study of the Aircraft’s Single Pointer Altimeter

Andrei GRAUR
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An airplane needs to be operated with maximum performance and the flight instruments makes it possible, especially when flying long distances.Manufacturers provide the necessary instruments, but to use them effectively, pilots need to understand how they operate. Unfortunately, the figures and schemes can only show the minimum and maximum range of motion for each element, so pilots and engineers have trouble understanding the mechanism by only visualising the schemes. This is the reason I elaborated this article.

Using Autodesk Fusion 360 software, I constructed step by step the single pointer altimeter. In this article, I present to you how a simple cinematic scheme and a few conditions are more than enough data for building a 3D functional and accurate single pointer altimeter and I will show you step by step how I have done this. The main purpose of using this modeling software is helping people around the world to better understand how a flight instrument is built in order to understand how it operates.

Antenna Trainer ED-3200

Alexandru HOTINCEANU
"Henri Coanda" Air Force Academy,Brasov,Romania

Antenna Trainer ED-3200 is a device designed to test and simulate the directivity and propagation feature of electromagnetic energy for different types of antennas. Therefore, the system consists of a source that provides a radio frequency current of 500MHz, 2GHz and 10GHz and a controller that can manipulate the direction of the antenna radiation. In addition, it contains a software that allows us to simulate the directional characteristics of the antennas on the computer. The system is easy to use and allows us to determine the propagation characteristics of the antennas in a limited space (approximately 100 m^2).

Innovatory Design. Blended-Wing Body Concept

Bianca-Maria IANOVICI
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Starting from the Wright brothers' first flight and following the historical course of aviation, the aviation industry has enjoyed tremendous expansion, being one of the main pillars of the global economy. This continuous development has led to a spectacular optimization of aircraft performance. However, the classic model of the plane, improved to the highest limit, ended up being surpassed by the increasingly drastic requirements of the outdoor environment. In order to satisfy the new implementations, as well as the need to protect the Planet, alternatives to traditional construction are being sought out. This new structure has to be as environmentally friendly as possible: it should provide good performance with lower consumption and emissions and less phonic pollution. The blended-wing body aircraft model, known by its acronym BWB, seems to offer a way to meet these requirements. This paper aims to present the main arguments for implementing this type of structure, but also its lower points.

Distance Measuring Equipment

Lavinia-Giorgiana FOCEAC
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The distance measuring equipment is a short and medium-range navigation system, frequently used in confluence with the VHF omnidirectional range system (VOR system) to give accurate navigation fixes. The operation of the system is based on the secondary radar principals, for the purpose of measuring distance, displaying mainly the oblique

distance rather than the horizontal one. Also, the system has the capacity to provide very useful information, such as the distance between the aircraft and a ground station. In addition, information such as the time from or to the station and the ground speed may also be determined when the aircraft is moving to or toward the ground station.

Cryptography - A World of Illusions

Gabriel-Marian LEIZERIUC
"Mircea cel Bătrân" Naval Academy, Constanța, România

„When cryptography is outlawed, bayl bhgynjf jvyy unir cevinpl." (John Perry Barlow)
Cryptography, a branch of mathematics that deals with securing information as well as authenticating and restricting access to a computer system, is for sure a world of illusions, appearances and secret codes. Both mathematical methods and quantum encryption methods are used in their realization. Every single secret is known by at least one person, so explaining how cryptography was invented, updated and also how it is used nowadays, a list of the current uses, presenting this world of illusions. Each message we see on the TV, in emails or on social media like Twitter or Meta can be a cover of another message.

Electronic Central Aircraft Monitoring System (ECAM) and Engine Indication and Crew Alert System (EICAS)

Ciprian-Hristu MANOLE
"Henri Coandă" Air Force Academy, Braşov, Romania

In the following pages I will describe and explain the workings of the Electronic Central Aircraft Monitoring System (ECAM) and Engine Indication and Crew Alert System (EICAS) , how each of them are used by the pilot and how they help to create better conditions for an efficient and safe flight. ECAM and EICAS are similar in that they are both electronic systems that monitor aircraft systems and alert pilots to system failures. The main difference is that while both systems display system information to pilots, ECAM will also list the actions required to deal with a failure. Once an action has been taken (making a selection on the overhead panel, for example) that action disappears from the list.

Intelligent Materials and Advanced Technologies in the Construction of Mini Gas Turbines

Dănilă MARGINEAN
"Henri Coandă" Air Force Academy, Braşov, Romania

In the manufacture of mini-jet engines, each component is made individually as part of sub-assemblies; then the sub-assemblies are put together to form the whole engine. Different technologies and new materials are used in this process. Although they are extremely old methods, casting, forging, tinning, cutting, milling, etc. are still widely used in the industry, but, due to the development of different domains (intelligent materials, information technology brach, artificial intelligence branch, etc.) engineers are developing new manufacturing technologies designed to overcome the disadvantages of

'traditional' methods. These methods and materials will be presented below, highlighting the steps of the process, special features, their advantages, importance, necessity and their use in such a domain as aviation.

eCall Technology of the Emergency Call Systems

Bogdan Andrei MITREA
"Henri Coandă" Air Force Academy, Braşov, Romania

It is an urge for the emergency call centers to provide a more accurate detection of the place the call has been made. As a matter of fact, to improve the methods of locating the people in help who had a car accident, the eCall technology has given the world an easier alternative of calling the emergency number, by just pushing a single button of the car's wheel.

The Study of Electric Motors in Military Technique

Andreea NAGHI
"Henri Coandă" Air Force Academy, Braşov, Romania

Technology contributes to our evolution and nowadays we're using it all the time being more and more dependent on it. So far on planes we have used classic engines based on petrol and oil, but throughout time we discovered that they aren't exactly the most efficient. Until now, with the discovery of the electrical engine, that has been proved to be more efficient for military purposes and especially for aircrafts.

Study on the Introduction of Holographic Systems in the "Henri Coanda" Air Force Academy Learning/Teaching System

Marius-Andrei ONOFREI
"Henri Coanda" Air Force Academy, Brasov, Romania

This paper is aimed to inform on a large scale the improving of the actual teaching system, by implementing the increasingly sought-after holographic systems. The introduction of these systems can bring long-term benefits due to stimulated attention and visual memory of the participants in the courses.

General Notions Regarding Computer Networks

Mihnea PAVLOVICI-PAVEL
"Henri Coandă" Air Force Academy, Brasov, Romania

Throughout history, information in the world has had a relatively slow pace of development, but with the invention of modern equipment and processes for the acquisition, storage, processing and distribution of data, the volume of information has begun to grow exponentially. A statement from a 2010 conference by former Google CEO Eric Schmidt is as follows:' Every two days now we create as much information as we did from the dawn of civilization up until 2003'. Thus, this piece of work will focus on defining

the generalities regarding computer networks, but also on presenting a short history of their appearance.

A Short Overview on Evolution of Mobile Communications' Technologies: 1G-5G

Oana-Ionela POPESCU
"Henri Coandă" Air Force Academy, Brașov, Romania

Since the previous couple decades, mobile wireless communication has advanced dramatically. This innovation has spanned several generations and is still ongoing. The progression from the era of electrical telegraphy to modern Internet Protocol (IP) – based networks has been mostly gradual, if not rapid, from the first generation (1G) to the fledgling fifth generation (5G) networks.
Today, 'high data' is all the rage, the Internet is practically omnipresent, and everything seems to have that 'smart' capabilities thanks to exciting technologies like machine-to-machine (M2M), cloud computing and the Internet of Things (IoT).
The first generation of mobile wireless communication was 1G, which was followed by 2G, 3G, 4G , and later by 5G. The goal of this paper is to present an overview of mobile generation evolution by comparing the features and difficulties that have developed from each generation and discussing how changes have occurred from one generation to the next. Now, maybe you have a lot of questions about that. Probably your first question is: "What is a communication?"; then, "What are the important features for each generation?".
May people imagine what their life would be like without mobile phones? Will we develop another generation?
IN ELECTRONICS, THE FUTURE REMAINS OPEN TO ALL POSIBILITIES.

Aircraft Performance Analysis Boeing B-52 Stratofortress

Eduard-Iulian SANDU
"Henri Coandă" Air force Academy, Brașov, România

The purpose in creating this scientific work was to perform an analysis, both qualitatively and quantitatively using XFLR5, of the Boeing B-52 aircraft, a strategic bomber used by the United States Air Force since 1950s. This type of aircraft still serves as the main element for the US nuclear intimidation force. XFLR5 is an analysis tool for airfoils, wings and planes operating at low Reynolds Numbers.

Introduction to The World of Blockchain Technology: 2022 Still an Early Stage, Ready for a Massive Adoption

Marian STAFIE
"Henri Coanda" Air Force Academy, Brasov, Romania

Blockchain is revolutionizing the digital world by bringing a modern point of view to security, effectiveness, trust, data transparency, and information. Blockchain could be a digitalized, decentralized, unchanging, public ledger in which information is endorsed and

shared with all parties. It has almost unbounded applications, and its concepts are transferable to wide areas where security, adaptability, and efficiency are basic. Blockchain technology has the potential to change the way modern societies operate. They can secure traditional transactions like payments in the exact order in which they occur, and enable completely new transactions like cryptocurrencies and smart contracts. Blockchain is not limited to cryptocurrencies like Bitcoin, but it has also sparked interest in using it in a variety of fields such as military defense and logistics, governance, arts, health, education, electricity trading, and so on. To apply this technology to many areas, we must understand how it works "behind the scenes". This technology is still considered to be in its infancy and requires extensive research before it can be used to its full potential. This paper is intended to supply a brief history and overview, explain and understand how blockchain works; clarify the core concepts and actual applications alongside future adoption.

Pneumatic System to Enable Flight Without Conventional Control Surfaces

Irimia-Junior VORNICU
"Henri Coanda" Air Force Academy, Brasov, Romania

Controll is esential for aircraft, along time diffrent ways of manouvering an air vchicle were developed and studied in hope of finding the best solution. Wather the biggest threat of conventional controll systems (aileron, flap, elevator and rudder) is mortally dangerous for aircraft operating on such systems. This paper will analyzes a non convetional system which proves to negate a great deal of weather dangers, a systems wich utilize the Coanda Efect for directing streams of pressuriezed air at the edge of the wing.

5. AERONAUTICAL HISTORY

Conference ROOM K6

Moderators:

Lect Jănel **TĂNASE**, PhD
"Henri Coandă" Air Force Academy, Brasov, Romania

Student Ruth **DRĂGUŞIN**
"Henri Coandă" Air Force Academy, Brasov, Romania

Student Claudiu **FUSARU**
"Henri Coandă" Air Force Academy, Brasov, Romania

The Contribution of Non-Combatant Women in the First World War Effort

Silviu APATACHIOAIE
"Henri Coanda" Air Force Academy, Brasov, Romania

The rise of men in power in the Great War has put women, since 1914, in many new positions: the head of the family, the administrator of the family's property, the worker in agriculture and factories. Another role of women is to get involved in raising orphaned children after the war. There were important representatives of the Romanian nobility who dedicated themselves to the cause of orphans, opened orphanages right in their homes, fed the impoverished population left at home and carried out charitable fundraising campaigns to support the war effort. the participation of women in war efforts eventually led to their emancipation in the interwar period.

A Hunter in the Sky of Bessarabia. Lieutenant Commander Aviator Gherghe Bordean Ioan, Commander of the 8th Hunting Group

Eduard-Costin BUGHECIU
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He made the first steps on the cadence and military strictness road at infantry officers school on 1st October 1921, and then, he became a pilot on 20th September 1924 at

aviation's pilot school from Tecuci. A personality with a complex military background who graduated "Higher Acrobation and Shooting School" from Poland and the "Information Course for Senior Officers", having a special career in military aviation from the interwar period and standing out as one of the greatest commanders of multiple aviation groups but also as the founder of the "I.A.R 80 to I.A.R 81 pilots school" in 1942 at Braşov. His own good dexterity and skill helped him to shoot down a plane on the anti-Soviet front during 1941-1944 with the "Grupul 8 Vânătoare" under his command. Among the qualities noticed by his superiors are not only his discipline and his seriousness, but the commander of "The Military Pilotage Center" of that time said that the capitan comandor Bordean Ioan Gheorghe is "one of the best pilots for war" or "He flies perfectly". He passed into the reserve of the Romanian military aviation exceeding the age limit, on January 25, 1946 remaining a legendary figure of the Romanian aviation.

Constantinescu Aurel, Airplane Pilot of Great Romania

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The aviator Constantinescu Aurel first flew on the frontlines as an observer officer in 1916. He was later sent to France for a pilot training course. After obtaining his licence, he returned to Romania, where he worked in Bessarabia from 1918-20. During this time, his performance as a pilot was excellent. Unfortunately, in 1920, he suffered a serious accident, forcing him to give up his career as a pilot due to burn injuries. Constantinescu took on all the necessary skills & information from his experience and used it to further his career as a pilot instructor, excelling in this field also. I will therefore present to you the history of Constantinescu, and the qualities he exhibited during his glory days.

Lieutenant General of Air Flotilla Ion Dobran, Member of 9th Hunting Air Group in World War II

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The love for his country appears since he was child, due to due to the education he received from his parents. Ion Dobran graduated Military High School "Mihai Viteazul" Târgu Mureș, later he attended Cotroceni Military School of Officers – Bucharest. Upon graduation, he is sent directly to the Eastern Front where he performs an impressive number of 340 missions, succeeding in winning more than 10 times. He was also shot down 3 times, escaping alive and unharmed. The aviator hero was and is one of the greatest aces of Romanian aviation during the Second World War.

Commodore Victor Caloianu, the Planning Officer for the Actions of the Air Combat Group on the Eastern Front. June 22 - October 16, 1941

Daniel CURIC
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Passionate from an early age about what Army meant, forcibly matured during the bloody battles of the Romanian Artillery at Nămoloasa and Mărăşeşti, well trained at the School of Air Observers and the Higher School of War in Romania, being an eminent graduate, Commodore Victor Caloianu, Chief of Staff of the Air Combat Group in the Eastern Front Campaign of 1941, is recognized for the skill with he performed the tasks related to the planning of complex military operations and represents a model of professionalism and dedication for the younger generations of staff officers.

The Commander of the Air Fighting Group in the Campaign of the Romanian Army for the Liberation of Bassarabia

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Called by his qualities to become a flying personality with complex aeronautical training, became Commander of Air force command in 1941 and he also commanded the Air Combat Group until 16 October 1941 which brought him the honor to be decorated with the "Air Force Virtue" order.
General Constantin Celăreanu constitutes for the generations of airmen the perfect aviator commander of war and is considered to be a legend of romanian wings.

The Lieutenant Commander Dumitru Darian

Claudiu DINIȚĂ
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An eminent student, passionate about geography, history and mathematics, proving an inquisitive mind and a warm feeling, which penetrated before other children of his account still unclear, mysterious joints, his deep knowledge determined his superiors to send him to follow. Austro-Hungarian Naval School in Rijeka. The outbreak of the First World War, the tension and the cooling of relations with Austria-Hungary brought him back to the country, where he continued his training at the Military School of Artillery, Engineering and Navy, which he graduated on July 1, 1916, with an average of 7 .57 (third in a series of 12 cadets). He followed the ranks of the military hierarchy from the rank of lieutenant (July 1, 1916), lieutenant (September 1, 1917), captain (April 1, 1921) to lieutenant-commander (May 10, 1929). In May 1917 he won the first great victory which will bring him the Orders "Michael the Brave" (1917), "Croix de Guerre" and "Aeronautical Virtue" with Knight's Swords (1930).

The Wings Have No Limits

Borislav IVANOV
"Georgi Benkovski" Bulgarian Air Force Academy, Dolna Mitropolia, Bulgaria

In the last few decades aviation has increased in complexity and dynamics. It has developed to such an extent that it covers the whole world and gathers people from different races and parts of the world. It has become one of the main ways not only to transport people and goods, but also for a successful global economy. It provides both access to many goods and services and a chance at life for people in need of immediate medical help. The beginning of this evolution was set by two Americans who have remained in the history of mankind as the people who gave impetus to the development of aviation - the brothers Orville and Wilbur Wright. Thanks to their creation in the last century, today there is no point in the world that is unattainable by man.

In War, Even Survivors Write Heroic Stories. Ioan Cristescu, Commander of the 2nd Bombing Group and of the 2nd Air Flotilla, an Important Representative of Romania on the Eastern Front

Răzvan MICU
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Everything has begun in Brăila. The town on the left bank of the Danube does not seem to have been disfavoured in history because many people to whom we now attach great importance have had the opportunity to watch their first sunrise reflected in the waters of the river. One of these privileged people was Mihail Sebastian, whose description laid out on sheets of paper by me would fade in front of his most clumsy text. At a time, the writer had the inspiration to say among many others significant words:"I don't ask anyone to be good or bad, beautiful or ugly, rogue or angel. I only ask that it be something that exists only once." Probably the one I am going to write about read his literary work or at least watched his plays, being not only contemporaries but also admirers of the same city with locust trees from the first moments of their lives, because the pilot Ioan Cristescu, because it's about him, listened to him exactly and "he lived only once." He was unique. His "uniqueness" is similar to that of other World War II fighters, but he was more than that, the commander of the Light Bombardment Group and the 2nd Air Fleet between 1939 and 1944. But the positions held are timidly hidden by the remarkable human quality of the one who in the most important stage of his career would wear on his shoulders the insignia of an air flotilla general, Ioan Cristescu.

Air Flotilla General Enescu Ramiro, Chief of the Air Staff in Romania's Military Aviation Campaigns in World War II

Cristian OLTEANU
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A graduate of the School of Artillery and Engineering and later of the Romanian War College, a personality of the Romanian Army with a complex aeronautical training, a strong desire for knowledge and a strong spirit of patriotism and courage, General Enescu Ramiro was a worthy figure and a model officer. His perfect military education and his love for aviation helped him to achieve spectacular results both on the battlefield, where he achieved numerous victories with his comrades, protecting his homeland, and in the development of military aviation, a field in which General Enescu was very active. He also dedicated much of his time to the training of future officers, successfully serving as a teacher and instructor in aviation educational institutions, disseminating his knowledge to others. Thus, General Enescu contributed enormously to the glory of the Romanian wings.

The Study of Aircrafts from the Beginnings

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The present paper will evaluate the study of aircrafts from beginnings. This essay covers topics such as first flights, aviation from global side, personalities and their impact on Romanian aviation.
Moreover, it is vital to understand the history of our country and the fact that aviation is full of great stories and a lot of important lessons.Nowadays, it shows that humans have been interested and intrigued by flight for centuries.

Stealth Technology. Introduction of the Stealth System.

Daniel PANDURU
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My article treats a interesting concept based and designed to avoid aircraft detection using the stealth tehnology. The paper presents and analyzes how the stealth aircafts make it more difficult for different types of radars to detect or track the targets. From ancient times people have understood the advantages of keeping some military forces hidden from the enemy because such hidden military forces could then be utilised at crucial moments in order to achieve decisive advantages in the battle. Stealth is one such revolutionary technology with the potential to change the way air power is exercised.

Lieutenant Colonel Comșa Ioan Liviu, Commander of the Second Flotilla – Bombing, a Basic Element of the Romanian Aviation in the Second World War

Petronel DRĂGOI
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An example of the military career he had, a graduate of the Military Infantry School in Sibiu who felt the call of the Romanian wings just after the first steps in the military journey, a personality who dedicated himself entirely to the aeronautical field, following step by step the courses of the Military School of Aircraft Pilots, Tecuci, the Military School of Aviation Application, as a graduate of a course conducted at the Military School of Air Observers near the Aviation Training Center, București, led by his desire to improve the professional skills, accomplish an internship in England at an English bombing unit, Lieutenant Colonel Liviu Comșa served as a commander for the 1st Bombardment Flotilla and the 2nd Bombardment Flotilla. He brought an exponential contribution to the Romanian Army in the Second World War by getting involved in bringing the French "Potez" and the English "Blenheim" aircrafts.

Bocșan Ioan. The Ace of the Romanian Military Aviation

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Ioan Bocșan (b. 20th century - d. 20th century) was a Romanian aviation pilot, ace of the Romanian Aviation from the Second World War. Lieutenant av. Ioan Bocșan was decorated with the Order of the Aeronautical Virtue of War with Swords, Golden Cross class (September 19, 1941) "for the courage with which he engaged in combat on August 8, 1941, in the Southwest, Mihailowca (Ukraine) with a number of aircraft far superior to their patrol, each shooting down a Soviet fighter jet."; Golden Cross class with 1 bar (November 4, 1941) "for the heroism shown in the air battles of Manheim and Dubosari, shooting down 2 enemy planes for the courage shown in the 72 missions on the front"; and the Golden Cross class with 2 berets (July 1, 1942) "for the heroism shown in the air combat engaged with the Bolshevik air force, when it shot down the 3rd enemy aircraft."

Air Flotilla General Gheorghe I. Jienescu, Martyr of Stalinism After World War II

Mihnea Gabriel SIRBU
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Drafted from being a teacher in his hometown, Rast, to take part in the War for National Reunification, decorated from his first military campaign, recommended during all of his career by his honorable character and his complex aeronautical training, a graduate of Oxford's Technical and Flight School, of Paris' Flight School and Bucharest's Superior School of War, general aviator Gheorghe Jienescu left his mark on Romanian military aviation through both his fearless and selfless acts and his influence on young pilots generations.

Colonel Paul Landman, an Accomplished Instructor for the Development of Future Air Personell Between 1920-1946

Bogdan-Ștefan STROE
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After finishing the Infantry School from Bucharest, Colonel Paul Landman discovers his passion for aviation and takes classes at the School of Aerial Observers and the School of Piloting, both based in the city of Tecuci. Through out his military carrer, he develops his capacities in both aviation and teaching other military personnel. His superiors always thought of him as an intelligent, strong and trustworthy person, these characteristics helped him to become the commander of Wien`s School for radio guided piloting. Even if he was a former infantery man, the love for aviation helps him to become the leader of 3rd Bomber Group, 5th Bomber Group of the 1st Bomber Flotilla and 2nd Bomber Flotilla.

Air Force Captain Olănescu Cicerone Pilot in World War I

Alin VIJULIE
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Being recommended by his qualities to become a good flying man, he is a highly developed personality with a military high school graduate in Iași, from 1916 to 1918 being a pilot with the degrees of 2nd lieutenant, lieutenant, captain. He had a potential recognized by his superiors in his career development, he is loved by the comrades, appreciated by the commander of the aviation corps, and he was noticed at that time during the battle in Mărășești, when on November 20 in 1916 he won the first Romanian victory in an air battle, by taking off an enemy plane near Ploiești. He was proposed by the commander of the Aeronautics Group 1 for advancement for a better position due to his very good results in Bassarabias's operations. He won the praise of many generals, along with the Medal of Honor of the country, the order of the 'Star of Romania' with spades and ribbon of military virtue.

2nd Lieutenant Moscu Teodor, the Hero Fighter Pilot of Cazaclia's Sky

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An integral, loyal and fully involved character in the art of aviation, he stands out with the successful graduation of the Preparatory of Aviation Officers School in 1940, being declared the first in the promotion in the order of the results he obtained. He passed through the filters of commanders, who were perfect soldiers and felt the war experience, and he received deserved assessments, reaching to be considered a man with very good knowledge and also a man who inspired other comrades the confidence in the military equipment which he used. The young pilot participated in the first war misson on 22^{th} *June 1941 attacking Ismail airfield and he shoot down two enemy airplanes, it means the first two air victories of the Romanian army in the Second World War. His sacrifice for his*

country, his good dexterity and his skill in the airplane handle were his real traits and he proved them in the battle of Odessa, being included as a pilot in the 51^{st} *Fighter Squadron. Noting his active participation in the 1941 war campaign, where he accumulated fifty hours of flight, forty-six combat missions and he managed to shoot down two enemy airplanes. In 1947, captain Moscu Teodor reached the position of* 1^{st} *Fighter Squadron. Aviator captain Moscu Teodor remained an example for the fearless knights of the air, but especially for each of us, through his power to be a hero both in his deeds and in his spirit!*