

STUDENTS' INTERNATIONAL CONFERENCE

CERC 2020

Bucharest, November 06-07, 2020



AWARDED PAPERS

1. ARMAMENT SYSTEMS

1st Prize: Roxana Butnariu, *Study on Hydro-Pneumatic Recoil Mechanism Used in Artillery Fire*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

2nd Prize: Alexandru Constantin Munteanu, *Study on the Dynamic Behavior of the Assault Weapon - Operator System*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

2nd Prize: Denisa-Luciana Mihăescu, Daliana-Maria Moldovan, Bianca Dumitrache, *Underwater Explosion*, Mircea cel Batrân" Naval Academy, Constanța, Romania;

3rd Prize: Teodora-Mădălina Lipan, *Analysis and Operation of Fixed Cluster-Bomb which are Equipped with Antipersonnel and Antimateria Submunitions Released through Programmable Dispenser Sequences*, Military Technical Academy "Ferdinand I" of Bucharest, Romania.

2. CONSTRUCTIONS AND FORTIFICATIONS

1st Prize: Vlăduț Alexandru Joldeș, *Sydney Opera House*, Military Technical Academy "Ferdinand I" of Bucharest, Romania.



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3. MILITARY ENGINEERING AND GEOMATICS

1st Prize: Dawid Tomica, *Simulations and Preliminary Concept of Mine Scattering Device with Hydraulic Drive System*, Military University of Technology in Warsaw, Poland;

2nd Prize: Cristian Chirițoiu, *Fuzes for S-mine with Safety Mechanism*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

3rd Prize: Duilio Gangitano, *Satellite Images for Civil-Military Cooperation*, Army Education and Training Command and School of Applied Military Studies, Turin, Italy;

Special Prize: Nicolae Popescu, *Analysis of the Effects of the Cumulative Charge on a Shield Following the Disposition of Lenses in the Explosive Charge*, Military Technical Academy "Ferdinand I" of Bucharest, Romania.

4. AEROSPACE AND MECHANICAL ENGINEERING

1st Prize: Valentin Pătrașcu, Maria Cîmpean, *Distributed Propulsion and the Boundary Layer Ingestion*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

2nd Prize: Diana-Ștefana Crețu, Timea-Antonela Secui, *Modern Dual-Flow Turbojet Engines. New Concepts for Improving Thermal Efficiency*, Military Technical Academy "Ferdinand I" of Bucharest, Romania.

5. AUTOMOTIVE ENGINEERING

1st Prize: Radu Tigran, *Analysis of the Working of a Two-Stage Compressor*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

2nd Prize: Patrycja Nogas, *Methods of Testing and Improving the Resistance to Oxidation of Liquid Fuels for Compression Ignition Engines*, Military University of Technology, Warsaw, Poland.

6. MATERIALS TECHNOLOGY

1st Prize: Magdalena Rzeszotarska, *Is it Possible to Manufacture Mg₂FeH₆ from Austenitic Stainless Steel?*, Military University of Technology in Warsaw, Poland

2nd Prize: Miruna Neagu, *Special Materials for Automotive Electronics*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

3rd Prize: Tiberiu Calistru, *Aerogel Reiew*, Military Technical Academy "Ferdinand I" of Bucharest, Romania.



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7. COMMUNICATIONS AND SIGNAL PROCESSING

1st Prize: **Alexandra-Mihaela Căținean**, *Intelligent Virtual Assistant*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

1st Prize: **Dominik Maly, Andrzej Dobrowolski**, *Extraction of Numerical Data from Auditory Evoked Potentials Charts*, Military University of Technology, Warsaw, Poland.

8. ROBOTICS, AUTOMATION AND ELECTRONIC SYSTEMS

1st Prize: **Łukasz Stosio**, *Autonomous Navigation using Visual Simultaneous Localization and Mapping (SLAM)*, Military University of Technology, Warsaw, Poland;

2nd Prize: **Marcin Śmieja**, *Computer Vision Method for Motion Detection*, Military University of Technology, Warsaw, Poland;

3rd Prize: **Ștefan Nuțu**, *Study on Determining the Orientation of a Helmet by Analyzing Images Obtained from a Camera*, Military Technical Academy „Ferdinand I”, Bucharest, Romania.

9. COMPUTER SCIENCE, MODELLING AND SIMULATION

1st Prize: **Bogdan Marghescu**, *Face Mask Detection Using YOLOv4*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

2nd Prize: **Maciej Śmieja**, *Computer Vision System for Markers Tracking*, Military University of Technology, Warsaw, Poland;

2nd Prize: **Gabriel Lesiak**, *Assessment of the Impact of the Selected Factors on the Sense of Security in Public Passenger Transport on the Example of the Capital City of Warsaw*, Military University of Technology, Warsaw, Poland;

3rd Prize: **Adina-Luiza Ciobanu**, *Spirals in Aikido Procedures*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

3rd Prize: **Alin Sferle**, *WayToTUCN, an Educational Bot with QnA Maker and Azure Bot Service*, Technical University of Cluj-Napoca, Romania.

10. MATHEMATICS APPLIED IN ENGINEERING

1st Prize: **Semion Peleskov, Ana-Maria-Ruxandra Reșcanu**, *A Wind Power Potential Study Applying Three-Parameter Weibull Distribution and Evolutionary Algorithms*, University „Politehnica” Bucharest, Romania;

2nd Prize: **Adrian Eracle Nicolescu**, *Axial Vibration of the Carbon Nanotubes with the Nonlocal Continuum Nanobeam Model*, „Ovidius” University, Constanța, Romania;

3rd Prize: **Ștefan-Răzvan Anton**, *A Mathematical Approach to Hostile Intent Identification for Security Systems*, University „Politehnica” Bucharest, Romania.



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11. MILITARY SCIENCE

- 1st Prize:** **Constantin Mateescu**, *Influence of the Geographical Environment over the battlefield*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;
- 2nd Prize:** **Alexandra-Ioana Buzătoiu**, *Turkey's New Global Role*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;
- 3rd Prize:** **Raluca Petrescu, Cosmin Timpau**, *Aspects of Novelty Regarding Decisive Factors of the Defense Operations and the new Types of War*, „Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania.

12. MANAGEMENT

- 1st Prize:** **Constantin-Iustinian Mihai, Bianca Ioana Deară**, *Student Life in a Pandemic - a Challenge of Time Organization, Health and Interpersonal Relationships*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;
- 2nd Prize:** **Ionuț Crăciun, Alexandra Ioana Buzătoiu**, *Necessity of a Leader*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;
- 3rd Prize:** **Cristina Ioniță, Lavinia Alecu**, *Management and Leadership. Military Leadership*, Military Technical Academy "Ferdinand I" of Bucharest, Romania.

13. ENGLISH

- 1st Prize:** **Radu-Ionuț Stanciu**, *Time Travel: The Infinite Odyssey*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;
- 2nd Prize:** **Elena-Andreea Bărbulescu**, *The Rest is Silence - The Perspective on Death and the Encounter with the Supernatural in Hamlet*, University of Bucharest;
- 2nd Prize:** **Alexandra-Ioana Buzătoiu**, *Capital Punishment*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;
- 3rd Prize:** **Denis Alexandru Andrei Grigore**, *Literary Representations of Invisible War Trauma*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;
- 3rd Prize:** **Vlad Virlan**, *Dungeons and Dragons - A 46 - Year Old Love - Hate Story*, „Mircea cel Batrân” Naval Academy, Constanța, Romania;
- Special Prize:** **Cristian Faur**, *The Cold War*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;
- Special Prize:** **Petruț Lăutărescu**, *Specialized Software for Automated Translation*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;
- Special Prize:** **Valentin Anica**, *How GPS has Changed our Lives*, Military Technical Academy "Ferdinand I" of Bucharest, Romania.



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14. FRENCH

1st Prize: **Bianca Gugu**, *Coco Chanel*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

2nd Prize: **Arianna Manolache, Monica Sima**, *Romanians, Pioneers of Aviation*, Military Technical Academy "Ferdinand I" of Bucharest, Romania.

15. INTERCULTURAL COMMUNICATION

1st Prize: **Răzvan Rotaru**, *Education Abroad: Enhancing Intercultural Sensitivity and Foreign Language Proficiency*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

2nd Prize: **Vlad-Andrei Dumitru**, *Sir Bernard Montgomery and the War in North Africa*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

3rd Prize: **Șerban Oboroceanu**, *Study of the Energy Security Implications on European Union's Diplomatic and Military Operations*, Military Technical Academy "Ferdinand I" of Bucharest, Romania.

**16. PROFESSIONAL AND INTERCULTURAL DEVELOPMENT
THROUGH ERASMUS+ MOBILITIES**

1st Prize: **Maria Angelica Stanciu**, *International Semester, a Huge Challenge, a Great Experience*, Military Technical Academy "Ferdinand I" of Bucharest, Romania;

2nd Prize: **Agata Paterewicz, Andrzej Piotrowski**, *Pole and Hungarian Brothers Be*, Military University of Technology in Warsaw, Poland;

3rd Prize: **Tatiana Șestacov**, *Constanta Maritime University (CMU) Students' Development during Erasmus+ Mobility in Poland*, Maritime University of Constanța, Romania;

Special Prize: **Cristina Popovici**, *Erasmus - A Life Changing Experience*, Military Technical Academy "Ferdinand I" of Bucharest, Romania.

**Military Technical Academy "Ferdinand I" of Bucharest
Vice-Rector for Interuniversity Relations
Chairman of Student's International Conference CERC 2020
Capt.cdr.Assoc.Prof.Eng. PhD**

Cristian-Emil MOLDOVEANU