

***“VASIL LEVSKI” NATIONAL MILITARY UNIVERSITY,
“ARTILLERY, AIR DEFENSE AND CIS” FACULTY, SHUMEN, BULGARIA
MILITARY TECHNICAL ACADEMY” FERDINAND I”, ROMANIA
“HENRY COANDA” AIR FORCE ACADEMY, BRASOV, ROMANIA
WAR STUDIES UNIVERSITY, WARSAW, POLAND
MILITARY UNIVERSITY OF TECHNOLOGY, WARSAW, POLAND
„SPIRU HARET“ UNIVERSITY BUCHAREST, ROMANIA,
POLISH AIR FORCE UNIVERSITY, DEMBLIN, POLAND
RIGA TECHNICAL UNIVERSITY - REZEKNE ACADEMY REPUBLIC OF LATVIA
IEEE STUDENT BRANCH OF THE NMU “VASIL LEVSKI”***

ARTILLERY, AD AND CIS FACULTY



DEFENSE TECHNOLOGY FORUM 2026

AGENDA

DEFENSE TECHNOLOGY FORUM 2026 SHUMEN

SEPTEMBER 24–26, 2026

Shumen, Bulgaria

ORGANIZING COMMITTEE

GENERAL CO-CHAIRS

- Brig. Gen. Eng. Stancho KAYKOV, Rector and Commandant of “Vasil Levski” National Military University, Bulgaria
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- Gen. (ret.) Mieczysław GOCUŁ, PhD, Rector of War Studies University, Warsaw
- Prof. Gheorghe DUDA, PhD, Erasmus+ Institutional Coordinator - “Spiru Haret” University, Romania
- Brig. Gen. Eng. Pilot Krzysztof CUR, PhD, Commandant Rector of Polish Air Force University, Demblin, Poland

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- Col. Assoc. Prof. Eng. Laurian GHERMAN, PhD, “Henry Coanda” Air Force Academy, Brasov, Romania
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- Col. Eng. Jarosław GAŚSIOR, PhD, Military University of Technology, Poland
- Lt Col. Daniel MICHALSKI, PhD, of the Polish Air Force University, Demblin, Poland

PROGRAM COMMITTEE

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- Col. Prof. Eng. Pamfil SOMOIAG, PhD, MTA “Ferdinand I”, Romania
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- LTC Assis. Prof. Eng. B. BIERNACIK, PhD, WSU, Poland
- Col. Prof. Eng. Grzegorz PILARSKI, PhD, WSU, Poland
- Col. Daniel ȘTEFĂNESCU, PhD, “Henry Coanda” Air Force Academy, Romania
- Col. DSc Prof. B. KOZICKI, PhD, MUT Poland

Defense Technology Forum Shumen 2026 Thursday 24th September 2026	
09:00 - 10:00	Registration
10:00 – 10:30	Opening Ceremony / Artillery, Air Defense, Communication and Information Systems Faculty-Shumen Room 08211, Block 08, II floor
10:30 – 10:50	Plenary Session 1: Assist. Prof. Stefania Loredana NITA¹ Alexia Ioana Dragomir¹, Marius Iulian Mihailescu², Valentina Marascu³ ¹ Military Technical Academy “Ferdinand I”, Bucharest, Romania ² Spiru Haret University, Bucharest, Romania ³ National Institute for Laser, Plasma and Radiation Physics Magurele, Romania <i>Attack Surface Of Open Spatial Data Infrastructures: A Systematic Threat Model For Ogc Service Stacks</i>
10:50 – 11:10	Plenary Session 2: Col. Prof.Eng. Phd Marius-Valeriu CIRMACHI-MATEI Military Technical Academy "Ferdinand I" <i>Emerging and Disruptive Technologies for Armament Systems</i>
11:10– 11:25	Coffee Break
11:25 – 11:45	Plenary Session 3: Lt.Col. Bartosz BIERNACIK, PhD Eng War Studies University, Warsaw, Poland <i>The Growing Importance On An Artificial Intelligence In Military And Public Services Activity – Case study</i>
11:45 – 12:05	Plenary Session 4: CPT. Florin-Marian DÎRLOMAN Mario-Gabriel Văncică, Sebastian Nistor, Sergiu-Emilian Țurloiu, Bogdan-Gheorghe Pulpea, Constantin Enache, Octavian Chiriac 1Military Technical Academy "Ferdinand I", <i>Modern vs. Traditional Binders In Illuminating Pyrotechnic Compositions: A Comparative Study</i>
12:05– 12:20	Company exhibition – NetScan regarding the technology Voxel Air Defense
12:20 – 13:00	Lunch Break – pre ordered only

14:00 – 15:00	International Scientific Conference – Workgroup Sessions: • Defense and Security - Section work • Weapons, Technologies, Logistics - Section work • Communication and Computer Technologies - Section work • Cybersecurity - Section work • Geodesy - Section work • Social studies - Section work
15:00 – 15:15	Coffee Break
15:15 – 18:00	Section work
19:00	Official Dinner Grand Hotel Shumen- pub
Friday 25th September 2026	
09:00 – 10:15	Section work
10:10 – 10:30	Coffee Break
10:30 – 13:00	Section work
13:00 – 14:00	Lunch Break
14:30 – 17:30	Section work
Saturday 26th September	
09:00 – 10:15	Section work
10:10 – 10:30	Coffee Break
10:30 – 13:00	Section work
13:00	Closing Ceremony

WORKGROUP SESSION
SECTION
DEFENSE AND SECURITY

Chairman: Col. Assoc. Prof. Stoyan N. Chanev, PhD

Location: Room 08401, Block 08, IV floor

Thursday 24th September 2026

- 14.00-15.30 1 THE ILLEGAL TRAFFICKING OF CULTURAL PROPERTY
2 DEFINITION OF THE CONCEPT OF "CULTURAL VALUE" IN INTERNATIONAL DOCUMENTS
3 TRENDS AND CHALLENGES IN THE DEVELOPMENT OF ANTI-TANK ROBOTIC SYSTEMS

Veliko P. Petrov

Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria

- 15.30-15.35 *Question and discussion*

- 15.35-16.05 THE NORTHERN SEA ROAD – WHAT IS IT IMPORTANT FOR?
A BRIEF ANATOMY OF THE ARCTIC BRIDGEPORT.

Stoyan G. Stoychev

Professor in National and International Security Department in Information Sciences Faculty at University for Library Studies and Information Technologies, Sofia, Bulgaria

- 16.05-16.10 *Question and discussion*

- 16.10-16.40 MAPPING THE EVOLVING ADVERSARY - A LONGITUDINAL ANALYSIS OF ADVANCED PERSISTENT THREAT TACTICS AND DEFENSIVE CO-EVOLUTION

Marius Iulian Mihailescu¹, Stefania Loredana Nita², Laurentiu Bogdan Asalomia⁴, Valentina Marascu^{1,3}

¹Faculty of Engineering and Computer Science, Spiru Haret University, Bucharest, Romania,

²Faculty of Information Systems and Cyber Security, Military Technical Academy "Ferdinand I", Bucharest, Romania,

³National Institute for Laser, Plasma and Radiation Physics Magurele, Romania; Faculty of Mathematics and Computer Science, Bucharest University, Bucharest, Romania,

⁴Northern Marine Management Limited, Glasgow, Scotland, United Kingdom;

- 16.40-16.45 *Question and discussion*

- 16.45-17.55 1. RESILIENT NAVIGATION AND CONTROL OF STRIKE UAVS IN GNSS-DENIED AND ELECTROMAGNETICALLY CONTESTED ENVIRONMENTS
2. CLASSIFICATION OF AUTONOMOUS FUNCTIONS IN STRIKE UAVS
3. AUTONOMOUS EXECUTION OF STRIKE UAV MISSIONS: FUNCTIONAL AUTONOMY PROFILES

Jordan Alexiev

Faculty of "Aviation", "Georgi Benkovski" Bulgarian Air Force Academy, Dolna Mitropolia, Bulgaria

- 17.55-18.00 *Question and discussion*

Friday 25th September

- 09.00-09.20 CRISIS MANAGEMENT AS A GUARANTEE OF NATIONAL SECURITY

Kaloyan A. Iliev, Ivan K. Vladov

Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria

- 09.20-09.25 *Question and discussion*

- 09.25-09.45 COMMAND AND CONTROL IN THE AGE OF ARTIFICIAL INTELLIGENCE

Kaloyan A. Iliev, Alexandra K. Vladova

Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria

- 09.45-09.50 *Question and discussion*

- 09.50-10.10 ANALYSIS AND MATHEMATICAL MODELING OF AIR AND MISSILE DEFENSE SYSTEMS WITH EMPHASIS ON THE RADAR EQUATION

Matei K. Kirov, Vencislav M. Vasilev, Vladislava S. Georgieva

Department of Air Defense, Artillery, Air Defense and CIS Faculty at the Vasil Levski National Military University, Shumen, Bulgaria

- 10.10-10.15 *Question and discussion*

- 10.15-10.35 *Coffee Break*

- 10.35-10.55 CIVIL-MILITARY COOPERATION IN NON-MILITARY CRISIS

Anton I. Manchev

Bulgarian Defence Institute "Professor Tsvetan Lazarov", Boulevard "Professor Tsvetan Lazarov" № 2, Sofia, Bulgaria

- 10.55-11.00 *Question and discussion*

<u>11.00-11.20</u>	MATHEMATICAL MODEL FOR ASSESSING THE EFFECTIVENESS OF INTEGRATED AIR AND MISSILE DEFENSE IN MULTI-DOMAIN OPERATIONS <i>Matei K. Kirov, Stanimir H. Parvanov</i> <i>Department of Air Defense, Artillery, Air Defense and CIS Faculty at the Vasil Levski National Military University, Shumen, Bulgaria</i>
<u>11.20-11.25</u>	<i>Question and discussion</i>
<u>11.25-12.25</u>	1. TECHNOLOGICAL EVOLUTION OF THE MINE COUNTERMEASURES SHIP SUBSYSTEM: TRANSITION TO INTEGRATED UNMANNED MODULES AND SENSOR NETWORKS 2. CURRENT CAPABILITIES OF THE MINE COUNTERMEASURES FORCES OF THE BLACK SEA FLEET OF THE RUSSIAN FEDERATION IN THE CONTEXT OF MODERN NAVAL CHALLENGES 3. QUANTITATIVE AND QUALITATIVE ANALYSIS IN CHOOSING OPTIONS FOR DEVELOPING NAVAL MINE COUNTERMEASURES CAPACITY <i>Krasimir S. Angelov</i> Faculty of Navigation, Nikola Vaptsarov Naval Academy, Varna, Bulgaria
<u>12.25-12.30</u>	<i>Question and discussion</i>
<u>12.30-12.50</u>	BULGARIA AND THE BLACK SEA DIMENSION OF REGIONAL SECURITY THROUGH THE PRISM OF THE MILITARY SPHERE OF THE TURKISH GEOSTRATEGIC PROJECT `BLUE FATHERLAND` AND THE RUSSIAN `NEUTRAL UKRAINE` <i>Michael P. Kozarski</i> Bulgarian Defence Institute "Professor Tsvetan Lazarov", Boulevard "Professor Tsvetan Lazarov" № 2, Sofia, Bulgaria
<u>12.50-13.00</u>	<i>Question and discussion</i>
<u>13.00-14.00</u>	<i>Lunch Break</i>
<u>14.00-14.30</u>	CHALLENGES ENCOUNTERED IN EMERGENCY MANAGEMENT INVOLVING THE ARMED FORCES OF THE REPUBLIC OF BULGARIA <i>Ivan K. Vladov</i> Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria
<u>14.30-14.35</u>	<i>Question and discussion</i>

- 14.35-15.05 RECONNAISSANCE UNMANNED AERIAL SYSTEMS IN ARTILLERY:
MODERNIZING TARGET ACQUISITION AND FIRE CONTROL FOR
26THE BULGARIAN LAND FORCES
Ivan K. Vladov, Daniel R. Rusev, Viktor D. Marinchev
Department of Air Defense, Artillery, Air Defense and CIS Faculty
at the Vasil Levski National Military University, Shumen, Bulgaria
- 15.05-15.10 *Question and discussion*
- 15.10-16.10 1. ANALYSIS OF ATTITUDES AND MOTIVATION FACTORS IN
CHOOSING HIGHER MILITARY EDUCATION
2. INFLUENCE OF ATGMS IN COMBAT OPERATIONS
Ivaylo Zh. Bozov
Faculty of Artillery, Air Defense and Communication and
Information Systems, National Military University, Shumen,
Bulgaria
- 16.10-16.15 *Question and discussion*
- 16.15-16.45 INNOVATIVE ALGORITHMS FOR RADAR INFORMATION
PROCESSING: SPARSE RECOVERY, TRANSFORMERS, DEEP
UNFOLDING AND COGNITIVE RADAR
Stanimir H. Parvanov, Ivan Y. Radev, Dilyan I. Dimirov
Department of Air Defense, Artillery, Air Defense and CIS Faculty
at the Vasil Levski National Military University, Shumen, Bulgaria
- 16.45-16.50 *Question and discussion*

Saturday 26th September

- 09.00-09.20 RECONNAISSANCE UNMANNED AERIAL SYSTEMS IN ARTILLERY:
MODERNIZING TARGET ACQUISITION AND FIRE CONTROL FOR
26THE BULGARIAN LAND FORCES
Ivan K. Vladov, Daniel R. Rusev, Viktor D. Marinchev
Department of Air Defense, Artillery, Air Defense and CIS Faculty
at the Vasil Levski National Military University, Shumen, Bulgaria
- 09.20-09.25 *Question and discussion*
- 09.25-09.45 ERASMUS+ KA02 PROJECT DIMAS FINAL ISSUES AND RESULTS
ANALYSIS
Linko Nikolov, Dilyan I. Dimitrov
Faculty of Artillery, Air Defense and Communication and
Information Systems, National Military University, Shumen,
Bulgaria
- 09.45-09.50 *Question and discussion*
- 09.50-10.10 *Coffee Break*

<u>10.10-10.50</u>	1. EVOLUTION OF TECHNOLOGIES USED BY INTERCEPTOR DRONES 2. OPPORTUNITIES FOR THE USE OF ATGM IN OPERATIONS <i>Ivaylo Zh. Bozov</i> Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria
<u>10.50-10.55</u>	Question and discussion
<u>10.55-11.55</u>	1. HISTORY OF THE DEVELOPMENT OF THE LEGAL PROTECTION OF CULTURAL VALUES 2. ANTI-TANK MISSILE COMPLEXES IN MODERN ARMED CONFLICTS 3. THE COMBAT EMPLOYMENT ON ANTI-TANK MISSILE COMPLEXES IN MODERN ARMED CONFLICTS <i>Veliko P. Petrov</i> Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria
<u>11.55-12.00</u>	Question and discussion
<u>12.00-12.20</u>	FUNCTIONING AND MILITARY EMPLOYMENT OF UNMANNED AERIAL SYSTEMS: STATISTICAL ANALYSIS OF DESIGN CONCEPTS, MISSION ROLES AND EMPLOYMENT TRENDS <i>Deyan N. Dimitrov</i> Department of Air Defense, Artillery, Air Defense and CIS Faculty at the Vasil Levski National Military University, Shumen, Bulgaria
<u>12.20-12.25</u>	Question and discussion
<u>12.25-12.45</u>	LAYERED AIR-DEFENCE SYSTEM: SYNTHESIS, OPERATIONAL ANALYSIS AND MATHEMATICAL MODELING <i>Stoyan N. Chanev, Matei K. Kirov, Stanimir H. Parvanov</i> Department of Air Defense, Artillery, Air Defense and CIS Faculty at the Vasil Levski National Military University, Shumen, Bulgaria
<u>12.45-12.50</u>	Question and discussion
<u>12.50</u>	Departure

WORKGROUP SESSION
SECTION
WEAPONS, TECHNOLOGIES, LOGISTICS

Chairman: Col. Eng. Assoc. Prof Conuy G. Conev, Ph.D.

Location: Room 08106, Block 8, floor I

Thursday 24th September 2026

14.00-14.30

MODIFICATION OF THE BURNING RATE OF A LIGHTING PYROTECHNIC COMPOSITION IN LIGHTING AIR BOMBS BY INTRODUCING AN INHIBITOR – STEARIC ACID

Ivelina Ivanova Angelska

NITI SHS Kazanlak, Bulgaria

14.30-14.35

Question and discussion

14.35-15.05

ANALYTICAL MODEL FOR THE PREDICTIVE DETERMINATION OF SMALL-ARMS SHOT GROUPING IN SINGLE-SHOT FIRING

Conyu G. Conev

Department of Air Defense, Artillery, Air Defense and CIS Faculty at the Vasil Levski National Military University, Shumen, Bulgaria

15.05-15.10

Question and discussion

15.10-15.30

Coffee Break

15.30-16.00

A MODEL FOR DETERMINING A CRITERION FUNCTION

Ivo Georgiev Radulov

Defence Advanced Research Institute, Rakovski National Defence College, Sofia, Bulgaria

16.00-16.05

Question and discussion

16.05-16.35

ADAPTED ANALYSIS OF THE IMPACT OF CRISES IN THE BLACK SEA REGION ON THE NATIONAL SECURITY OF THE REPUBLIC OF BULGARIA

Anastas M. Chitakov

National Military University "Vasil Levski", Artillery, AAD and CIS Faculty

16.35-16.40

Question and discussion

16.45-17.45

1. MILITARY-TECHNOLOGICAL ASYMMETRY IN THE ALGORITHMIC ERA: RECONCEPTUALIZATION OF STRUCTURAL NEOREALISM AND THE PHENOMENON OF "ALGORITHMIC VETO"

2. INSTITUTIONAL, LEGAL, AND SOFTWARE DIMENSIONS OF DEFENSE CONTROL: FROM HARDWARE GEOPOLITICS TO ALGORITHMIC SOVEREIGNTY

Dilyan Markov

Rakovski National Defence College, Sofia,, Bulgaria

17.45-17.50 *Question and discussion*

Friday 25th September

09.00-09.30 THE EFFECT OF VARIABLE FOCAL DISTANCE TO THE ASPEN
SAMPLES SURFACE ON CO₂ LASER ENGRAVING PARAMETERS

Daivis Rāviņš, Imants Adijans, Dzintars Rāviņš

Faculty of Engineering, RTU Rezekne Academy, Rezekne, Latvia

09.30-09.35 *Question and discussion*

09.35-10.05 LASER SURFACE HARDENING OF MEDIUM-CARBON STEELS:
PROCESS OPTIMIZATION, MICROSTRUCTURAL EVOLUTION, AND
INDUSTRIAL APPLICATIONS

Normunds Teirumnieks

University of Transport "Todor Kableshkov", Sofia, Bulgaria

10.05-10.10 *Question and discussion*

10.10-10.30 *Coffee Break*

10.30-11.00 METROLOGICAL SUPPORT FOR WEAPON SYSTEMS FOR
DETERMINING THEIR TECHNICAL CONDITION

Vanko V. Ganev¹, Yana D. Dimitrova², Petya N. Stefanova³

^{1,2,3}, Faculty of Artillery, Air Defense and Communication and
Information Systems, National Military University, Shumen,
Bulgaria

11.00-11.05 *Question and discussion*

11.05-11.35 APPLICATION OF THE SYSTEM OF TOLERANCES AND FITS IN IN-
DUSTRY 4.0

Rosen N. Lazarov

Department "Armament and technology for design", National
Military University "Vasil Levski", Shumen, Bulgaria

11.35-11.40 *Question and discussion*

11.40-12.20 1. A MISO 2×1 SOFTWARE-DEFINED RADIO MODEM WITH
ALAMOUTI TRANSMIT DIVERSITY: DESIGN AND EXPERIMENTAL
EVALUATION

2. A SIMO 1×2 SOFTWARE-DEFINED RADIO MODEM
WITH MAXIMUM - RATIO COMBINING: DESIGN AND EXPERIMENTAL
EVALUATION

Ivan P. Ivanov

Defence Institute "Professor Tsvetan Lazarov", Sofia, Bulgaria

12.20-12.25 *Question and discussion*

12.25-12.55 RFNOC-BASED FMCW WAVEFORM GENERATION FOR USRP SDR

Ivan P. Ivanov, Sevdalin Spassov

Defence Institute "Professor Tsvetan Lazarov", Sofia, Bulgaria

12.55-13.00

Question and discussion

13.00-14.00

Lunch Break

14.00– 14.30

COMPUTATIONAL ANALYSIS OF SINGLE-PIECE AND SEGMENTED FRANGIBLE CORE DESIGNS FOR PROJECTILE IMPACT ON STEEL AR-MOUR

Mirel Nană, Constantin Enache, Florin-Marian Dîrloman, Adrian-Nicolae Rotariu, Octavian-Gabriel Chiriac

Military Technical Academy "Ferdinand I" Bucharest, Romania,

14.30-14.35

Question and discussion

14.35-15.05

EXPERIMENTAL STUDY ON THE BALLISTIC IMPACT PERFORMANCE OF MULTILAYER SIDE BODY ARMOR

Alexandru-G. Vintilă¹, Florina Bucur², Adrian-N. Rotariu³, Savu-E. Dima⁴, Andrada-M. Sandu⁵

^{1,2,3,5} Military Technical Academy "Ferdinand I"

⁴ S.C. Tactical Life S.R.L.

15.05-15.10

Question and discussion

15.10-15.40

RESEARCH ON THE RELIABILITY AND SERVICE LIFE OF SPECIAL MECHANICAL SYSTEMS

Andrada-M. Sandu, Pamfil Șomoiaș, Liviu-C. Matache, Alina Pleșca, Alexandru-G. Vintilă

Faculty of Integrated Armament Systems, Military Engineering and Mechatronics,

Military Technical Academy „Ferdinand I”, Bucharest, ROMANIA

15.40-15.45

Question and discussion

15.45-16.15

THE SYSTEM OF SYSTEMS CONCEPT IN MULTIDOMAIN ENVIRONMENT

Valentin S. Vasilev

Faculty of Navigation, Nikola Vaptsarov Naval Academy, Varna, Republic of Bulgaria

16.15-16.20

Question and discussion

16.20-17.10

A MULTI-CRITERIA MODEL FOR ASSESSING THE RESILIENCE OF

COMMUNICATION SYSTEMS UNDER NUCLEAR, CHEMICAL AND BIOLOGICAL THREATS

Nikolay Iliyanov Padarev

Faculty of Logistics and Technologies, Vasil Levski National Military University, Veliko Tarnovo, Republic of Bulgaria,

17.10-17.15 *Question and discussion*

17.15-17.45 AUTOMATED QUALITY CONTROL SYSTEMS FOR WATER HEATING APPLIANCES

Aleksandra P. Docheva, Daniel R. Denev

Faculty of Technical Sciences, Department of Communication and Computer Engineering and Security Technologies, Konstantin Preslavsky University of Shumen, Shumen, Bulgaria

17.45-17.50 *Question and discussion*

Saturday 26th September

09.00-09.20 A METHOD FOR OPTIMIZING COMBINED USE OF UNMANNED AERIAL SYSTEMS AND ARTILLERY FORMATIONS TO ENGAGE TARGETS IN CONTEMPORARY ARMED CONFLICTS

Ivelin G. Katsev

Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria

09.20-09.25 *Question and discussion*

09.25-09.45 INTEGRATED DIGITAL-PHYSICAL APPROACH TO DEVELOPING DEFENSE AND DUAL-USE TECHNOLOGIES THROUGH SIMULATIONS, ADDITIVE MANUFACTURING AND ARTIFICIAL INTELLIGENCE

Stamen I. Antonov¹, Mariela L. Antonova²

¹Artillery, Air Defense and CIS Faculty at the Vasil Levski National Military University, Shumen, Bulgaria

²Department of Information, qualification, and lifelong learning, Konstantin Preslavsky University of Shumen

09.45-09.50 *Question and discussion*

09.50-10.10 FUNCTIONAL CLASSIFICATION AND COMPARATIVE ANALYSIS OF METHODS FOR THE DEMILITARIZATION OF ARTILLERY ROUNDS AND THEIR COMPONENTS

Miroslav P. Dimitrov

National Military University "Vasil Levski", Artillery, AAD and CIS Faculty

10.10-10.15 *Question and discussion*

10.15-10.30 *Coffee Break*

<u>10.30-10.50</u>	FIELD ARTILLERY SYSTEMS AND TECHNOLOGIES:ASSESSMENT OF CAPABILITIES AND TECHNOLOGICAL DEVELOPMENT <i>Ivan K. Vladov, Yavor Y. Valkov, Yuliadi P. Keranov</i> NMU "Vasil Levski" Faculty "Artillery, Air Defence, Communication and Information systems", Shumen, Shumen region, Bulgaria
<u>10.50-10.55</u>	<i>Question and discussion</i>
<u>10.55-11.15</u>	SURVEY OF THE CONDITION OF TECHNICAL OBJECTS <i>Andrei I. Bogdanov</i> Konstantin Preslavski University Of Shumen, Shumen 9712, 115 Universitetska Str
<u>11.15-11.35</u>	<i>Question and discussion</i>
<u>11.35-11.55</u>	INVESTIGATION OF THE TECHNOLOGICAL PROCESS IN TRANSFORMING PET WASTE INTO FDM FILAMENT <i>Martin G. Dimitrov</i> Artillery, Air Defense and CIS Faculty at the Vasil Levski National Military University, Shumen, Bulgaria
<u>11.55-12.00</u>	<i>Question and discussion</i>
<u>12.00</u>	<i>Departure</i>

WORKGROUP SESSION SECTION

COMMUNICATION AND COMPUTER TECHNOLOGIES

Chairman: LtCol. Assoc. Prof. Krasimir Ognyanov Slavyanov, PhD

Location: Room 25109, Blok 25, floor I

Thursday 24th September 2026

- 14.00-14.30 APPLICATION OF THE MUSIC ALGORITHM FOR DIRECTION OF ARRIVAL ESTIMATION IN RADAR SYSTEMS
Georgi P. Iliev, Stanimir H. Parvanov
Artillery, Air Defense Communication and Information Systems Faculty, National Military University „V. Levski”, Shumen, Bulgaria
- 14.30-14.35 *Question and discussion*
- 14.35-15.05 REAL TIME HIGH ORDER QUADRATURE AMPLITUDE MODULATION IMPLEMENTED VIA SOFTWARE-DEFINED RADIO: FUNDAMENTAL STRUCTURE, EMPIRICAL CHARACTERIZATION, AND MILITARY APPLICATION
Ivan I. Ivanov
Joint Forces Command, Sofia, Bulgaria
- 15.05-15.10 *Question and discussion*
- 15.10-15.30 *Coffee Break*
- 15.30-16.00 COMPARATIVE ANALYSIS OF THE BASIC METHODS FOR 3D STEGANOGRAPHY
Georgy A. Kozarev
Air Defense Department, Artillery, Air Defense Communication and Information Systems Faculty, National Military University „V. Levski”, Shumen, Bulgaria
- 16.00-16.05 *Question and discussion*
- 16.05-16.35 MODELING AND ANALYSIS OF A COMMUNICATION CHANNEL IN THE GNU RADIO SIMULATION ENVIRONMENT
Vladislava S. Georgieva
Radar and Communication Systems Department, Artillery, Air Defense and CIS Faculty at the Vasil Levski National Military University,, Shumen, Bulgaria
- 16.35-16.40 *Question and discussion*

- 16.40-18.10 1. IMPACT OF ASSESSMENT INDICATORS ON CONTENT GENERATED BY LARGE LANGUAGE MODELS
2. A SINGLE APPROACH TO MANAGEMENT AND MONITORING OF MILITARY COMMUNICATION AND INFORMATION SYSTEMS
3. SECURITY AND RESILIENCE OF TRANSFORMER ARCHITECTURES AND LARGE LANGUAGE MODELS

Miroslav G. Nedelchev

Computer Systems and Technologies Department, Air Defense Communication and Information Systems Faculty, National Military University "V. Levski ", Shumen , Bulgaria

- 18.10-18.15 *Question and discussion*

Friday 25th September

- 09.00-09.30 RISKS TO PERSONAL INFORMATION AND ITS PROTECTION ON THE INTERNET

Borislava T. Nedkova, Daniel R. Denev

Faculty of Technical Sciences, Department of Communication and Computer Engineering and Security Technologies, Konstantin Preslavsky University of Shumen, Shumen, Bulgaria

- 09.30-09.35 *Question and discussion*

- 09.35-10.05 PASSWORD SECURITY ASSESSMENT THROUGH ENTROPY ANALYSIS AND DIFFERENT GENERATION STRATEGIES

Gabriela S. Markova, Daniel R. Denev

Faculty of Technical Sciences, Department of Communication and Computer Engineering and Security Technologies, Konstantin Preslavsky University of Shumen, Shumen, Bulgaria

- 10.05-10.10 *Question and discussion*

- 10.10-10.30 *Coffee Break*

- 10.30-11.00 USING COMMUNICATION NETWORKS AND GRAPH MODELS TO PREDICT ACADEMIC ACHIEVEMENT IN GEOGRAPHY EDUCATION

Madlen A. Todorova, Danev, Daniel R. Denev

Konstantin Preslavsky University of Shumen,
Shumen, Bulgaria

- 11.00-11.05 *Question and discussion*

- 11.05-11.35 CONCEPT DRIFT IN STREAMING INFORMATION DATA IN INTELLIGENT ENERGY SYSTEMS

Milen S. Davidkov

Faculty of Technical Sciences, Department of Communication and Computer Engineering and Security Technologies, Konstantin Preslavsky University of Shumen, Shumen, Bulgaria

- 11.35-11.40 *Question and discussion*

- 11.40-12.10 ASSESSMENT AND IMPROVEMENT OF STREAMING INFORMATION DATA QUALITY
Milen S. Davidkov, Tsvetoslav S. Tsankov
Faculty of Technical Sciences, Department of Communication and Computer Engineering and Security Technologies, Konstantin Preslavsky University of Shumen, Shumen, Bulgaria
- 12.10-12.15 *Question and discussion*
- 12.15-12.45 HYBRID APPROACH TO NETWORK TRAFFIC ANOMALY DETECTION USING WIRESHARK, CISCO PACKET TRACER AND IDS
Dimitar R. Iliev, Ekaterina M. Hristova
Faculty of Technical Sciences, Department of Communication and Computer Engineering and Security Technologies, Konstantin Preslavsky University of Shumen, Shumen, Bulgaria
- 12.45– 12.50 *Question and discussion*
- 12.50-14.00 *Lunch Break*
- 14.00-14.30 DECISION-MAKING MODEL FOR ADAPTIVE ACCESS CONTROL IN A UNIVERSITY INFORMATION SYSTEM
Radostin H. Lefterov
Technical University of Gabrovo
Dept. of Mathematics, Informatics and Natural Sciences
Gabrovo, Bulgaria
- 14.30-14.35 *Question and discussion*
- 14.35-15.05 CONCEPTUAL MODEL AND MULTILAYER ARCHITECTURE FOR REAL-TIME STREAMING DATA QUALITY MANAGEMENT
Svetlana M. Davidkova, Milen S. Davidkov
Konstantin Preslavsky University of Shumen, Shumen, Bulgaria
- 15.05-15.35 *Question and discussion*

Saturday 26th September

- 09.00-09.30 CREATION OF A PARAMETRICALLY CONTROLLED SYNTHETIC IMAGE DATASET OF ISHIHARA-LIKE PLATES FOR COMPARING HUMAN AND COMPUTER VISION
Lyubomir E. Manov
Department of Radar and Communication Systems, Air Defense Communication and Information Systems Faculty, National Military University "V. Levski ", Shumen , Bulgaria
- 09.30-09.35 *Question and discussion*

09.35-10.05 SHUMENTECH AS A REGIONAL HUB FOR DUAL-USE TECHNOLOGIES AND DEFENSE INNOVATION IN BULGARIA'S NATIONAL SECURITY SYSTEM

Vladislav Milkov Genoff¹, Hristo Atanasov Hristov²

¹ Department "Computer Systems and Technologies", "Artillery, Air Defense and CIS" Faculty, "Vasil Levski" National Military University, Shumen, Shumen, Bulgaria

² Shumen Municipality, Shumen, Bulgaria, e-mail

10.05-10.10 *Question and discussion*

10.10-10.40 APPLICATION OF SATELLITE COMMUNIKATION SYSTEMS IN AIR DEFENCE

Yoana A. Pashkuleva

Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria

10.40-10.45 *Question and discussion*

10.45 *Departure*

WORKGROUP SESSION
SECTION
CYBERSECURITY

Chairman: LtCol. Assoc. Prof. Linko Nikolov PhD and Assist. Prof. Radostin Dimov

Location: Room 08201, Blok 8, floor III

Thursday 24th September 2026

CALIBRATED DIPLOMACY - A TIERED RESPONSE FRAMEWORK
FOR CYBERSECURITY INCIDENTS UNDER ATTRIBUTION
UNCERTAINTY

***Marius Iulian Mihailescu¹, Stefania Loredana Nita², Valentina
Marascu^{1,3}, Laurentiu Bogdan Asalomia⁴***

¹Faculty of Engineering and Computer Science, Spiru Haret
University, Bucharest, Romania,

²Faculty of Information Systems and Cyber Security, Military
Technical Academy "Ferdinand I", Bucharest, Romania,

³National Institute for Laser, Plasma and Radiation Physics
Magurele, Romania; Faculty of Mathematics and Computer
Science, Bucharest University, Bucharest, Romania,

⁴Northern Marine Management Limited, Glasgow, Scotland,
United Kingdom

14.00-14.30

Question and discussion

14.30-14.35

THE ROLE OF TRUE ENTROPY IN POST-QUANTUM CYBERSECURITY

Zhaneta N. Savova*, Antoniya T. Tasheva**

14.35-15.05

*Artillery, Air Defense, Communication and Information Systems
Faculty, Shumen, National Military University „Vasil. Levski”

**Department of Computer Systems, Technical University of
Sofia, Sofia, Bulgaria

15.05-15.10

Question and discussion

15.10-15.30

Coffee Break

15.30-16.00

RESPONSIBLE INTELLIGENT GEOSPATIAL SYSTEMS: GEO-
PRIVACY, CYBERSECURITY AND AI IN DEFENSE APPLICATIONS

Ani A. Stefanova

Faculty of Geodesy, Department of Applied Geodesy, University of
Architecture, Civil Engineering and Geodesy, Sofia, Bulgaria

16.00-16.05

Question and discussion

- 16.05-16.35 ETHICAL CHALLENGES IN IMPLEMENTING AUTOMATION AND AI
Ekaterina M. Hristova¹, Aleks Ya. Danev²
 Faculty of Technical Sciences, Department of Communication and
 Computer Engineering and Security Technologies, Konstantin
 Preslavsky University of Shumen, Shumen, Bulgaria
- 16.35-16.40 *Question and discussion*
- 16.40-17.10 CYBERSECURITY IN AUTOMATED INDUSTRIAL SYSTEMS
Petar G. Sotirov, Ilker A. Hatib
 Faculty of Technical Sciences, Department of Communication and
 Computer Engineering and Security Technologies, Konstantin
 Preslavsky University of Shumen, Shumen, Bulgaria
- 17.10-17.15 *Question and discussion*

Friday 25th September

- 90.00-09.30 HYBRID MODEL FOR RELIABILITY ASSESSMENT OF INTELLIGENT
 VIDEO SURVEILLANCE SYSTEMS USING FMEA AND MONTE CARLO
 SIMULATIONS
Silvia Hr. Nikolova
 Faculty of Technical Sciences, Department of Communication and
 Computer Engineering and Security Technologies, Konstantin
 Preslavsky University of Shumen, Shumen, Bulgaria
- 09.30-09.35 *Question and discussion*
- 09.35-10.05 MODERN TECHNOLOGIES FOR SECURE STORAGE AND
 PROTECTION OF CRITICAL INFORMATION AGAINST
 CONTEMPORARY CYBER THREATS
Daniel Mitich, Elena Karadzhova, Nikoleta Pehlivanova
 National Military University "Vasil Levski", Faculty of Artillery,
 Air Defense and Communication and Information Systems,
 Shumen
- 10.05-10.10 *Question and discussion*
- 10.10-10.30 *Coffee Break*
- 10.30-11.00 THE IMPACT OF ARTIFICIAL INTELLIGENCE ON SOCIAL WORK
Stefaniya M. Chervenкова, Daniel R. Denev
 Faculty of Technical Sciences, Department of Communication and
 Computer Engineering and Security Technologies, Konstantin
 Preslavsky University of Shumen, Shumen, Bulgaria
- 11.00-11.05 *Question and discussion*

<u>11.05-11.35</u>	EXPLAINABLE ARTIFICIAL INTELLIGENCE IN MANUFACTURING SYSTEMS <i>Yuray Yu. Mehmedov, Ivaylo I. Petrov</i> Faculty of Technical Sciences, Department of Communication and Computer Engineering and Security Technologies, Konstantin Preslavsky University of Shumen, Shumen, Bulgaria
<u>11.35-11.40</u>	<i>Question and discussion</i>
<u>11.40-12.10</u>	QUANTITATIVE ASSESSMENT OF RADIO-FREQUENCY COUNTERMEASURES AGAINST CONSUMER UNMANNED AERIAL VEHICLES <i>Deyan N. Dimitrov, Nikola P. Petrov</i> Department of Air Defense, Artillery, Air Defense and CIS Faculty at the Vasil Levski National Military University, Shumen, Bulgaria
<u>12.10-12.15</u>	<i>Question and discussion</i>
<u>12.15-12.45</u>	CYBERSECURITY ANALYSIS USING DEEP LEARNING NEURAL NETWORKS <i>Nikola R. Lazarov</i> Department "Computer Systems and Technologies", National Military University "Vasil Levski", Shumen
<u>12.45-12.50</u>	<i>Question and discussion</i>
<u>12.50-14.00</u>	<i>Lunch Break</i>
<u>14.00-14.30</u>	MALICIOUS ACTIVITIES HUNTING IN NETWORK DEVICES <i>Linko Nikolov, Svetoslav Kirilov</i> Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria
<u>14.30-14.35</u>	<i>Question and discussion</i>
<u>14.35-15.05</u>	MALICIOUS ACTIVITIES HUNTING IN WINDOWS DEVICES <i>Linko Nikolov, Evlogi Grigorov</i> Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria
<u>15.05-15.10</u>	<i>Question and discussion</i>
<u>15.10-15.40</u>	MALICIOUS ACTIVITIES HUNTING IN LINUX DEVICES <i>Linko Nikolov, Akan Hilmi</i> Faculty of Artillery, Air Defense and Communication and

Information Systems, National Military University, Shumen

15.40-15.45

Question and discussion

Saturday 26th September

09.00-09.30

IMPROVING BLUE TEAM THREAT HUNTING CAPABILITIES
THROUGH CYBER DEFENSE EXERCISES

Radostin S. Dimov

Cybersecurity and Information Technology Section, National
Military University "Vasil Levski", Shumen, Bulgaria

09.30-09.35

Question and discussion

09.35-10.05

"IMPACT OF HYPERPARAMETERS AND DATA SCALING METHODS
ON THE PERFORMANCE OF DEEP NEURAL NETWORKS FOR
NETWORK ATTACK DETECTION

Angela R. Borisova

Faculty of Artillery, Air Defense and Communication and
Information Systems, National Military University, Shumen,
Bulgaria

10.05

Departure

WORKGROUP SESSION
SECTION
SOCIAL

Chairman: Col. Eng. Assoc. Prof. Milena H. Lambeva, Ph.D.

Location: Room 39301, Block 39, floor III

Thursday 24th September 2026

- 14.00-14.30 THE LOOK AND THE SMILE AS A MEANS OF COMMUNICATION
Valya M. Simeonova
Logistic Support Command Sofia
- 14.30-14.35 *Question and discussion*
- 14.35-15.05 INFORMATION SUPPORT FOR MACROCONFLICTS MANAGEMENT
Asen Zahariev
Department of National and International Security, Faculty of Information Sciences, University of Library Science and Information Technology
- 15.05-15.10 *Question and discussion*
- 15.10-15.30 *Coffee break*
- 15.30-16.00 CULTURAL NATIONALISM AS A POLICY FOR THE PRESERVATION AND SUSTAINABLE DEVELOPMENT OF THE BULGARIAN IDENTITY AND STATESHIP
Stoyan Stoychev, Petar Givkov
Bulgarian Defence Institute "Professor Tsvetan Lazarov", Boulevard "Professor Tsvetan Lazarov" № 2, Sofia, Bulgaria
- 16.00-16.05 *Question and discussion*
- 16.05-16.35 ARCH SYNDROME AND CRITICAL THINKING IN A MILITARY ENVIRONMENT
Viktor T. Dobrev
Department of „Radar and communication systems“ Faculty of Artillery, Air Defense and CIS, Vasil Levski National University of Science and Technology, Shumen, Bulgaria
- 16.35-16.40 *Question and discussion*
- 16.45-17.15 VULNERABILITY ASSESSMENT IN THE VARNA REGION IN THE CONTEXT OF DISASTERS AND EMERGENCIES
Mariya Dimitrova
Rakovski National Defence College, Sofia,, Bulgaria

<u>17.15-17.20</u>	<i>Question and discussion</i>
<u>17.20-17.50</u>	APPLICATION OF GRAPH THEORY IN THE ANALYSIS OF DEPOPULATED REGIONS <i>Milena H. Lambeva</i> Faculty of Artillery, Air Defense and Communication and Information Systems, National Military University, Shumen, Bulgaria
<u>17.50-18.00</u>	<i>Question and discussion</i>
<u>18.00</u>	<i>Departure</i>

WORKGROUP SESSION

SECTION

GEODESY

Chairman: Associate Professor Hristo A. Desev

Location: Room 25105, Blok 25 floor I

Thursday 24th September 2026

14.00-15.30

1. THE IMPACT OF GRAVITY CORRECTIONS ON NORMAL HEIGHTS DETERMINED BY PRECISE GEOMETRIC LEVELLING
2. GIS AS A TOOL FOR INTEGRATING, ANALYSING, AND VISUALISING SPATIAL DATA TO SUPPORT ROAD SAFETY DECISION-MAKING
3. INTEGRATION OF MACHINE LEARNING IN CLASSICAL GRAVIMETRY AND GNSS STUDIES

Marko Markov

NMU "Vasil Levski", Faculty of "Artillery, AD and CIS",
Department "Geodesy", Shumen, Bulgaria

15.30-15.35

Question and discussion

15.35-15.50

Coffee Break

15.50-16.20

ANALYSIS OF METHODS FOR CREATING AN UNDERGROUND CADASTRE

Petina A. Andreeva, Hristiyan Georgiev

NMU "Vasil Levski", Faculty of "Artillery, AD and CIS",
Department "Geodesy", Shumen, Bulgaria

16.20-16.25

Question and discussion

16.25-16.55

FLOODING RISK ASSESSMENT IN THE KAMCHIA RIVER BASIN AFTER APPLICATION OF MULTI-CRITERION ANALYSIS

Gergana Dimova

NMU "Vasil Levski", Faculty of "Artillery, AD and CIS",
Department "Geodesy", Shumen, Bulgaria

16.55-17.00

Question and discussion

17.00-17.30

SURVEY AND RENOVATION OF THE GEODETIC NETWORK OF THE "V. LEVSKI" NATIONAL MILITARY UNIVERSITY – SHUMEN CAMPUS

Viktor Dragiev, Andrey Andreev

NMU "Vasil Levski", Faculty of "Artillery, AD and CIS",
Department "Geodesy", Shumen, Bulgaria

17.30-17.35

Question and discussion

Friday 25th September

<u>09.00-09.30</u>	LINEAR MEASUREMENT WITH LIGHT RANGEMETERS ON A REFERENCE GEODESIC NETWORK <i>Maria Cendova, Andrey Andreev</i> NMU "Vasil Levski", Faculty of "Artillery, AD and CIS", Department "Geodesy", Shumen, Bulgaria
<u>09.30-09.35</u>	<i>Question and discussion</i>
<u>09.35-10.35</u>	1. ANALYSIS OF EXISTING SPECIAL GEODETIC NETWORKS IN BULGARIA 2. METHODS FOR ESTABLISHING SPECIAL GEODETIC NETWORK <i>Georgi Tanev</i> Department "Geodesy", NMU "Vasil Levski", Faculty of "Artillery, AD and CIS", Shumen, Bulgaria
<u>10.35-10.40</u>	<i>Question and discussion</i>
<u>10.40-11.00</u>	<i>Coffee Break</i>
<u>11.00-11.30</u>	METHODS FOR INVESTIGATING VERTICAL DEFORMATIONS <i>Tsvetelina T. Mateeva, Vladimir M. Petrov</i> Department "Geodesy", NMU "Vasil Levski", Faculty of "Artillery, AD and CIS", Shumen, Bulgaria
<u>11.30-11.40</u>	<i>Question and discussion</i>
<u>11.40-12.10</u>	BASICS OF REMOTE SENSING AND SATELLITE SYSTEMS <i>Desislava A. Delkova, Momchil G. Georgiev, Veselin H. Gepov</i> Department "Geodesy", NMU "Vasil Levski", Faculty of "Artillery, AD and CIS", Shumen, Bulgaria
<u>12.10-12.15</u>	<i>Question and discussion</i>
<u>12.15-12.45</u>	1. METHODS FOR MAPPING THE BOTTOM OF A WATER BASIN 2. MODERN MEANS FOR HYDROGRAPHIC SURVEYS <i>Tanislav Tanev</i> Department "Geodesy", NMU "Vasil Levski", Faculty of "Artillery, AD and CIS", Shumen, Bulgaria
<u>12.45-12.50</u>	<i>Question and discussion</i>
<u>12.50-13.20</u>	THE LIGHTHOUSES AND AIDS TO NAVIGATION SYSTEM ALONG THE BULGARIAN BLACK SEA COAST: HISTORY, CURRENT STATUS, CHALLENGES, AND FUTURE DEVELOPMENT <i>Aleksandra P. Zidarova, Aylin N. Dzhom</i> Department "Geodesy", NMU "Vasil Levski", Faculty of "Artillery, AD and CIS", Shumen, Bulgaria
<u>13.20-13.35</u>	<i>Question and discussion</i>
<u>13.35</u>	<i>Departure</i>

