



MILITARY MEDICAL ACADEMY

BULGARIAN SOCIETY OF AVIATION,
NAVY AND SPACE MEDICINE



PROGRAMME

XV SCIENTIFIC CONFERENCE
ON AVIATION, MARITIME AND
SPACE MEDICINE



10 – 12 SEPTEMBER 2026

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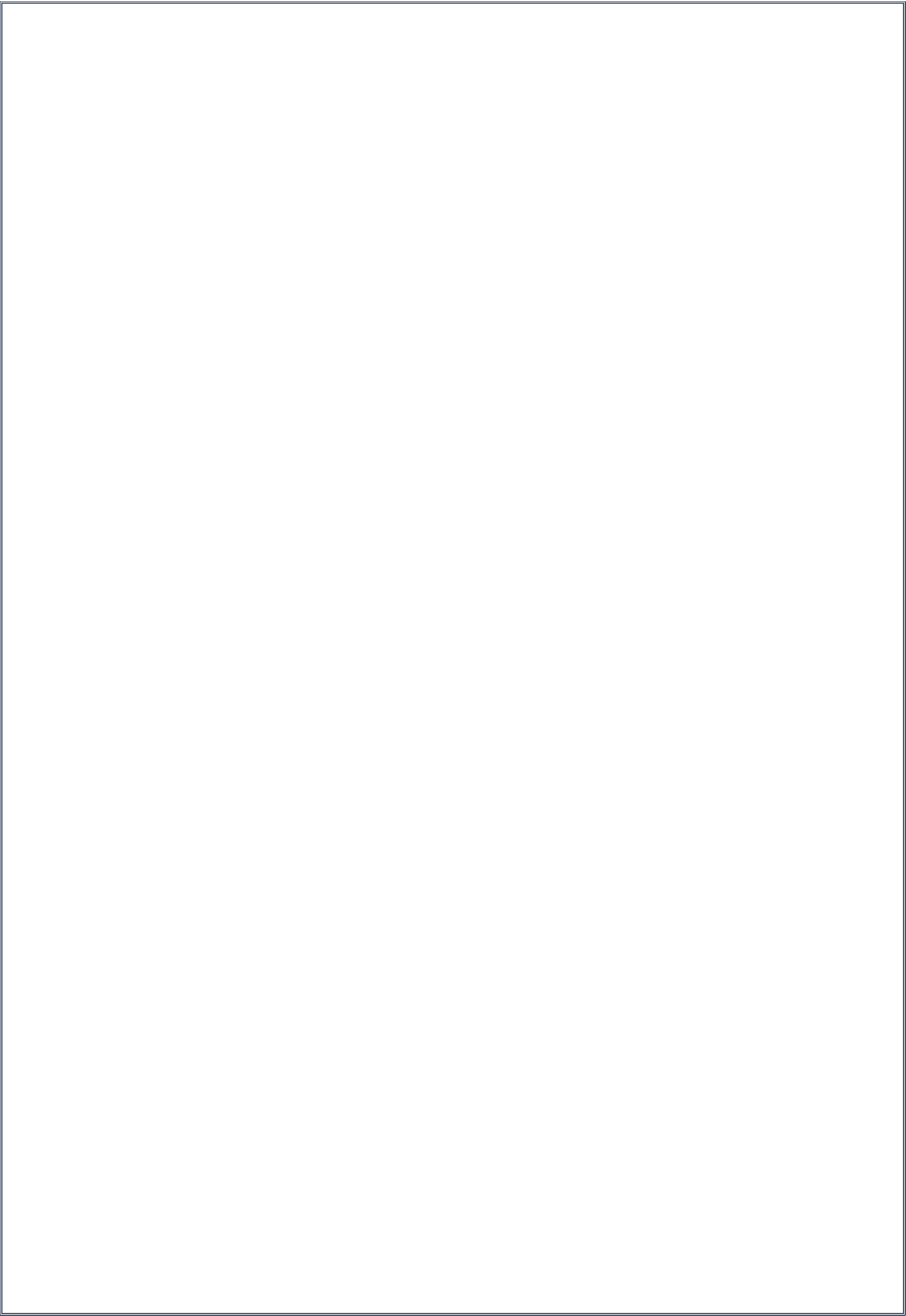
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DEAR COLLEAGUES AND GUESTS,

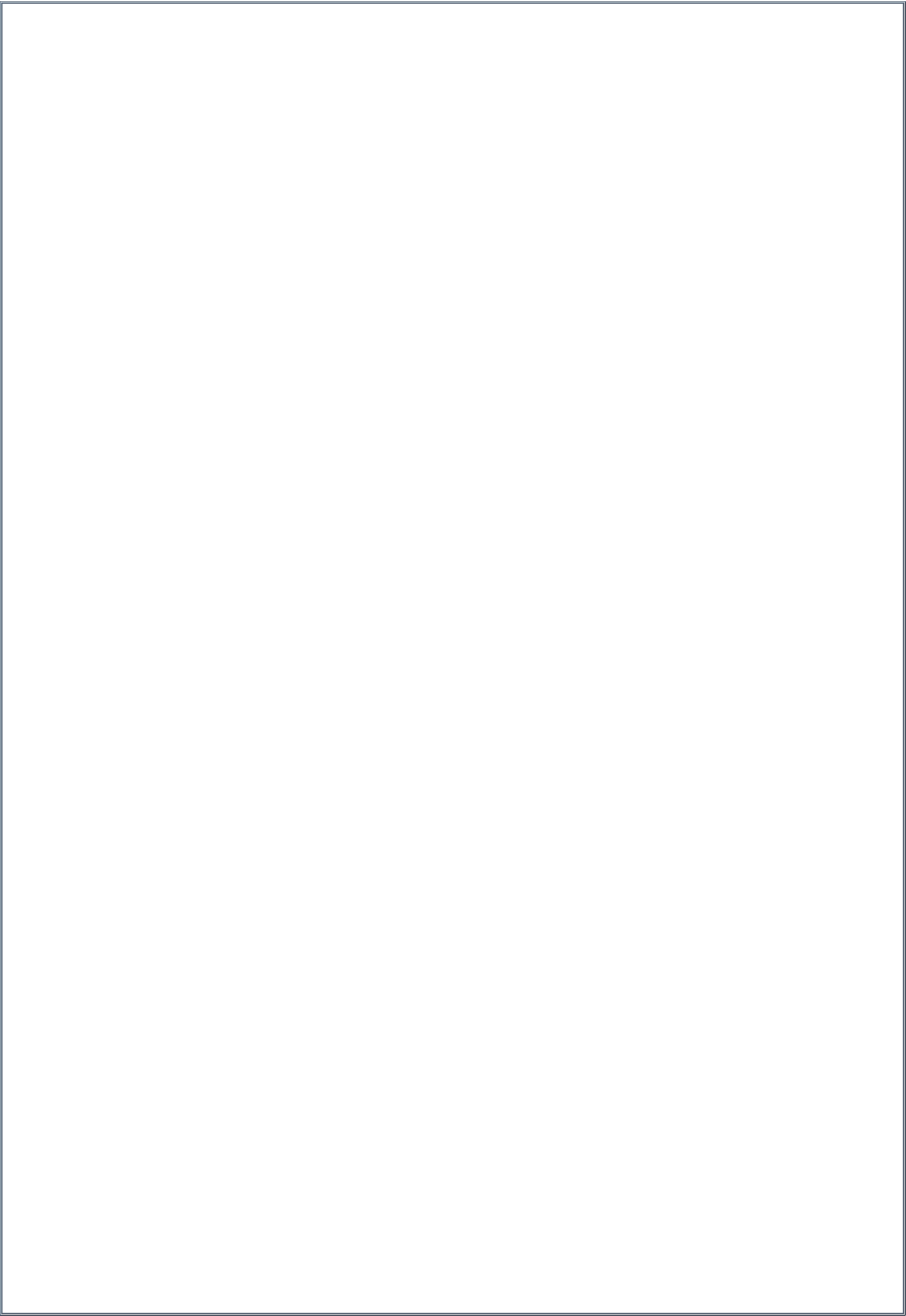
It is my great pleasure to welcome you to the opening of the 15th National Conference on Aviation, Maritime and Space Medicine.

This year, our conference addresses one of the most exciting and relevant questions in contemporary science – the development of aviation, maritime and space medicine in the era of digital technologies and artificial intelligence. We are witnessing advances that, only a decade ago, would have seemed unimaginable, ranging from algorithms supporting medical diagnosis to systems capable of monitoring the physiological condition of pilots, marines and astronauts in real time. The challenge before us is to integrate these emerging technologies while never losing sight of the human being and the unique ways in which the human body and mind respond to extreme and hostile environments.

I am confident that this conference will provide an excellent opportunity for the exchange of knowledge, scientific ideas and best practices, while also helping us identify new perspectives for the advancement of this important field of medicine.

Please accept once again my warmest congratulations and my sincere wishes for a productive and successful conference.

**MAJOR GENERAL PROF. VENTZISLAV MUTAFCHIYSKI, MD, PhD, FACS
DIRECTOR OF THE MILITARY MEDICAL ACADEMY**





DEAR ORGANISERS,

DEAR COLLEAGUES AND GUESTS,

It is my great pleasure, on behalf of the Bulgarian Air Force Command and personally, to welcome you to the opening of the 15th National Conference on Aviation, Maritime and Space Medicine.

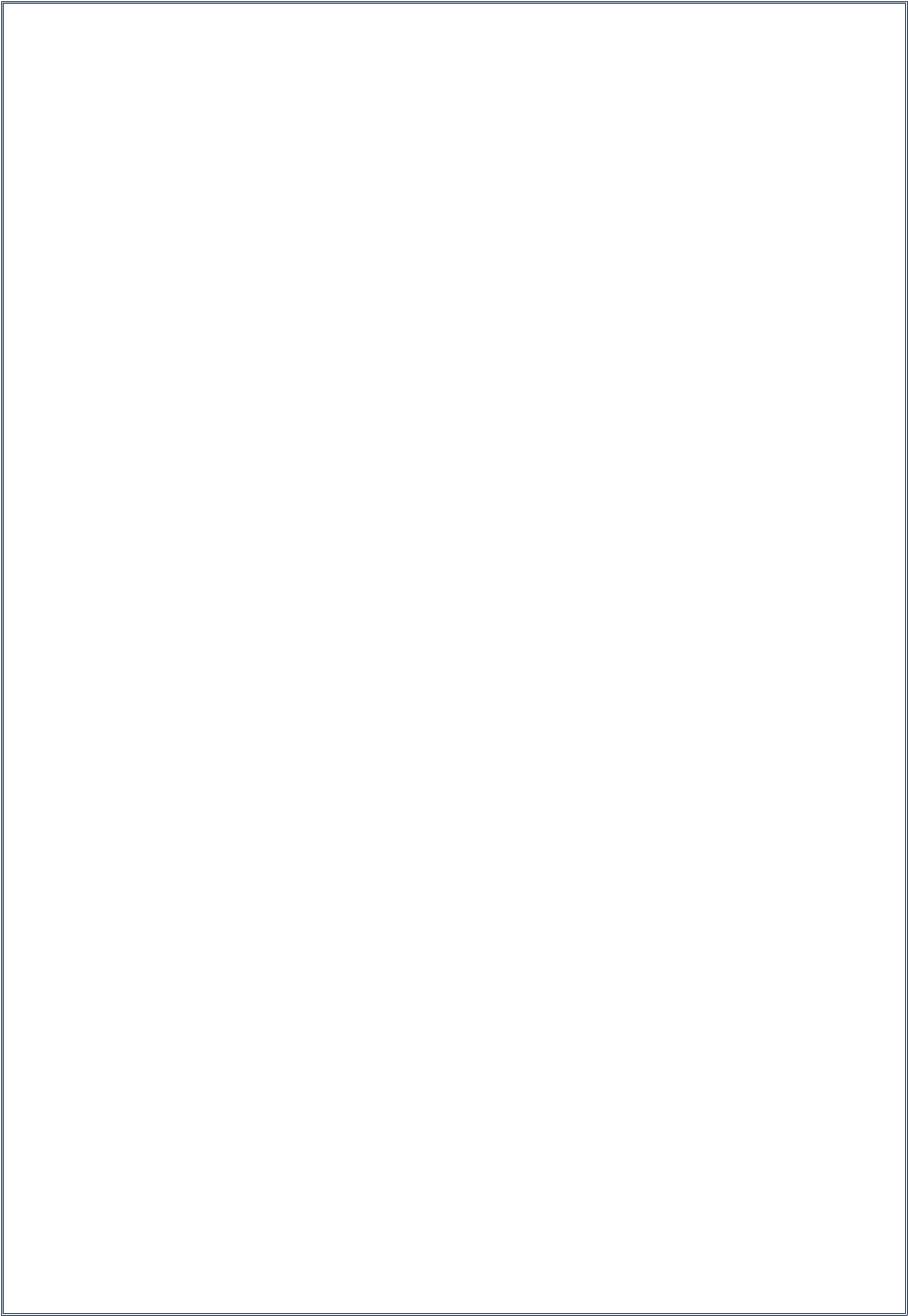
This distinguished forum is taking place at a pivotal moment, when the focus of the scientific programme – digital technologies and artificial intelligence – directly intersects with the everyday challenges facing our national defence. New technological realities are transforming the demands placed on the human factor across all operational domains – in the cockpit, aboard naval vessels, and in the space frontiers of tomorrow.

I would like to commend the Military Medical Academy and the Bulgarian Association of Aviation, Navy and Space Medicine for their continued commitment to this conference as a leading and innovative platform for scientific exchange.

I wish all participants fruitful discussions, a creative exchange of ideas, and continued professional success in the service of the health and well-being of our personnel and the security of our nation.

COMMANDER OF THE BULGARIAN AIR FORCE

MAJOR GENERAL NIKOLAY RUSEV



PROGRAMME

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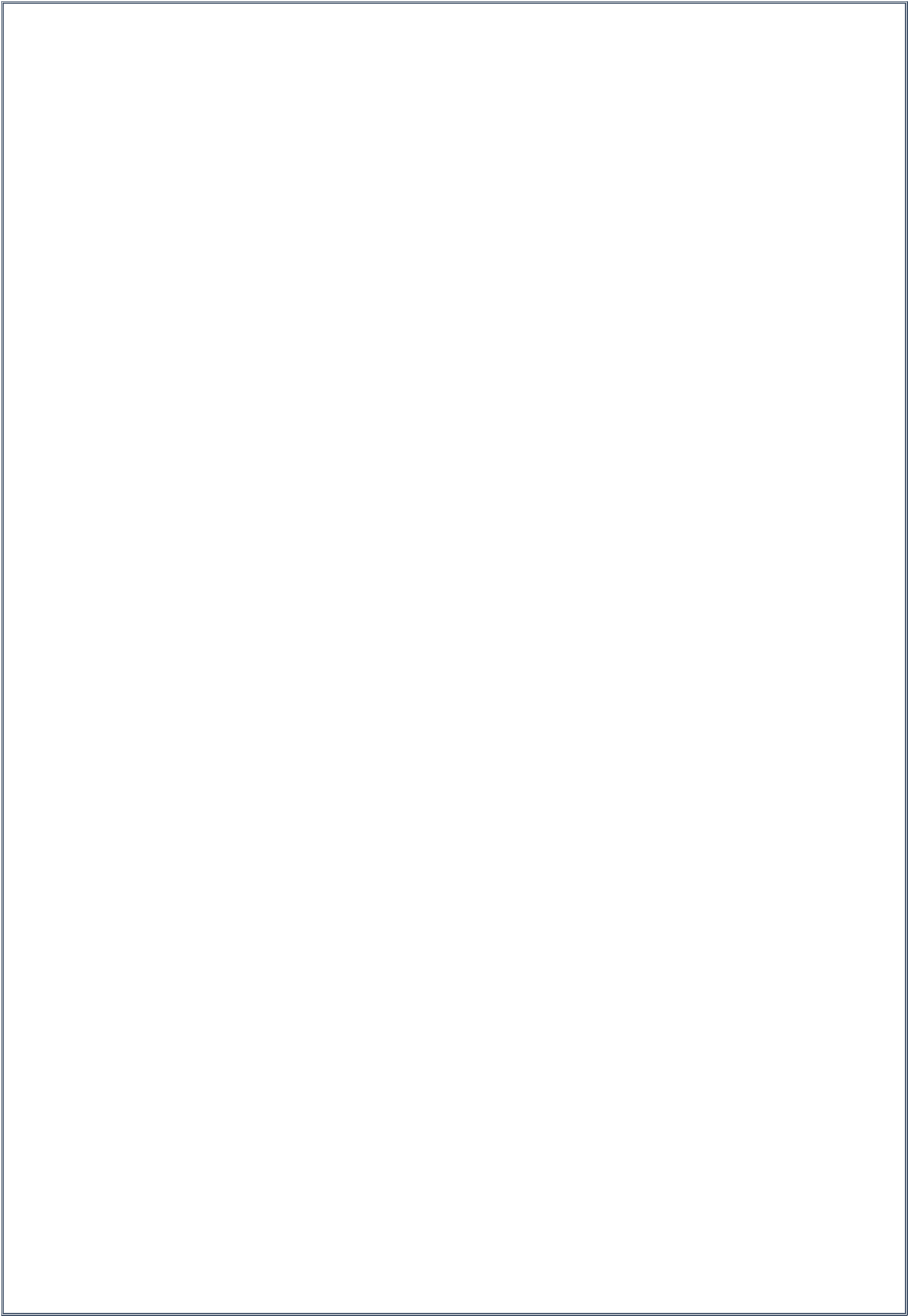
XV Scientific Conference on Aviation, Maritime and Space Medicine

Conference theme:

“The Role of Artificial Intelligence in the Training and Professional Development of the Human Factor in the Bulgarian Armed Forces in the Field of Aviation, Maritime and Space Medicine”

“The Development of Aviation, Maritime and Space Medicine in the Era of Digital Technologies and Artificial Intelligence”

With the support of Pharma Trade BG Ltd., Santis Medical Solutions Ltd., Wörwag Pharma Bulgaria Ltd., AvioGroup Bg Ltd. and AMST-Systemtechnik GmbH.



10th September 2026 /Thursday/

14:00–17:30 – Participant registration.

17:30–18:00 – Official opening of the Conference by the Chairperson of the Bulgarian Association of Aviation, Navy and Space Medicine.

18:00–18:30 – **Plenary session:**

- “Artificial Intelligence for Safe Flights – Human Factors and Aviation Medicine.” – Prof. Lyubomir Aleksiev, MD, PhD – Department of Aviation and Maritime Medicine – Military Medical Academy, Sofia
- “The Role of Artificial Intelligence and Digital Technologies in Diving Medicine.” – Prof. Nikola Shopov, MD, PhD, DSc – Department of Aviation and Maritime Medicine – Military Medical Academy, Varna

19:00–21:30 – Welcome Drinks & Networking Reception

11th September 2026 /Friday/

I. Scientific Session “Aviation and Space Medicine”

08:30–11:00

(Conference Hall)

Chair: *Prof. Lyubomir Aleksiev, MD, PhD*

Secretary: *Dr. Deanna Aleksandrova, PhD*

Presentation of papers

08:30–08:40 – “Modeling of Spatial Disorientation Conditions in Virtual Reality Flight Simulators: Technical capabilities and prospects.” – Aleksandar Mladenov – Institute for Research and Training of Doctoral Students, University of Library Science and Information Technologies

08:40–08:50 – “From the Cockpit to the Patient’s Bedside: Why Simulation Should Be a Moral Imperative in Medicine.” – Prof. Dr. Blagoy Marinov – Society for Simulation Medicine

08:50–09:00 – “The Role and Importance of Artificial Intelligence in the Education and Training of Aviation Personnel in Aviation Physiology.” – Dr. Kamen Nenov – Military Medical Academy, Sofia

09:00–09:10 – “The Intelligent Flight Surgeon – A Concept for Integrating Artificial Intelligence, Digital Twin and Simulation Technologies in Military Aviation Medicine Education and Practice.” – Dr. Stefka Valcheva – Military Medical Academy, Sofia

09:10–09:20 – “The Role and Challenges in the Application of Artificial Intelligence in Primary and Secondary Health Prevention for Aviation Personnel. Areas of Application in Aviation and Occupational Medicine.” – Dr. Dorina Manahilova – University Hospital “St. George” – Plovdiv

09:20–09:30 – “Mixed Reality (MR) Training for Aeromedical Evacuation.” – Dominik Toews – Skills Med

09:30–09:40 – “Comparative Analysis of the Organization of Medical Evacuation in NATO and the National Models of Selected Countries.” – Col. Dr. Maria Georgieva – Military Medical Academy, Plovdiv

09:40–09:50 – “Cross-Border Air Transport of Children and Newborns – Management Algorithm.” – Dr. Blagomir Zdravkov – Multiprofile Hospital for Active Treatment of Children’s Diseases “St. Anastasia”; Prof. Lyubomir Aleksiev, MD, PhD – Military Medical Academy, Sofia

09:50–10:00 – “Air Transport of Children with Traumatic Brain Injuries.” – Dr. Blagomir Zdravkov – Multiprofile Hospital for Active Treatment of Children’s Diseases “St. Anastasia”

10:00–10:10 – **Presentation by AMST-Systemtechnik GmbH**

10:10–10:20 – “Changes in Brain Matter During Long-Duration Space Missions.” – Dr. Deanna Aleksandrova, PhD – Military Medical Academy, Sofia

10:20–10:30 – “Training and Adaptation of Artificial Intelligence for Aviation and Space Medicine.” – Lt. Col. Boris Stoykov – Bulgarian Air Force Academy “Georgi Benkovski”

10:30–10:40 – “Agent Systems for Medical Decision Support in Isolated Environments.” – Lt. Col. Boris Stoykov – Bulgarian Air Force Academy “Georgi Benkovski”

10:40–10:50 – “Deployment and Application: Aviation, Astronautics and Perspectives.” – Lt. Col. Boris Stoykov – Bulgarian Air Force Academy “Georgi Benkovski”

10:50–11:00 – Discussion

11:00–11:10 – Coffee break

II. Scientific Session “Maritime Medicine”

11:10–12:10

(Conference Hall)

Chair: *Prof. Nikola Shopov, MD, PhD, DSc*

Secretary: *Assoc. Prof. Konstantin Georgiev, MD, PhD*

Presentation of papers

11:10–11:20 – “A New Approach to Calculating Oxygen Toxicity in Divers.” – Prof. Nikola Shopov, MD, PhD, DSc; Lt. Dr. Nikoleta Malinova – Military Medical Academy, Varna

11:20–11:30 – “From Physiological Parameters to Prediction of Functional Status: Digital Technologies and Artificial Intelligence in Extreme Environment Medicine.” – Lt. Dr. Nikoleta Malinova, Col. Assoc. Prof. Milan Tsekov, MD, PhD, Dr. Veselin Marinov – Military Medical Academy, Varna

11:30–11:40 – “Hyperbaric Oxygenation in a Free Dermal Split Graft.” – Assoc. Prof. Konstantin Georgiev, MD, PhD, Dr. Dragomir Dimitrov, Col. Assoc. Prof. Milan Tsekov, MD, PhD, Dr. Hristiyana Todorova, Dr. Vasil Terzi, PhD – Military Medical Academy, Varna

11:40–11:50 – “Radiation Incidents in The Marine Environment and an Operational Comparative Framework for Medical Preparedness in The Black Sea Region.” – Dr. Neven Nedyalkov; Assoc. Prof. Maria Panteleeva, PhD; Prof. Hristina Romanova, MD, PhD, DSc – Medical University “Prof. Dr. Paraskev Stoyanov”

11:50–12:00 – “Clinical Case of Acute Myocardial Infarction Aboard a Marine Facility: Diagnostic and Therapeutic Challenges.” – Dr. Vladimir Tsonev – AIDA Cruises, German Brand of Costa Crociere; Prof. Dimitar Stavrev, MD, PhD, DSc – Medical University “Prof. Dr. Paraskev Stoyanov”

12:00–12:10 – “Development and implementation of software for conducting a client-specific decompression procedure.” – Lt. Commander 1st Rank Daniel Todorov – Bulgarian Navy; Lt. Dr. Nikoleta Malinova – Military Medical Academy, Varna; Prof. Eng. Stoyan Tanev – Institute for Space Research and Technology – Bulgarian Academy of Sciences

12:10–13:00 – Lunch

III. Session “Aviation and Maritime Psychology”

13:00–14:10

(Conference Hall)

Chair: *Assoc. Prof. Rumyana Kareva, PhD*

Secretary: *Major Dr. Rositsa Nedeva*

Presentation of papers

13:00–13:10 – “When the Body Speaks: Physical and Psychosocial Signals in the Context of Human Health.” – Brigadier General Yulian Radoyski – Bulgarian Air Force Academy “Georgi Benkovski”

13:10–13:20 – “Sensitive Sensors, Artificial Intelligence and Application in BAF Academy Training.” – Brigadier General Yulian Radoyski – Bulgarian Air Force Academy “Georgi Benkovski”

13:20–13:30 – “NASA Task Load Index (NASA-TLX): Adaptation and Validation under Bulgarian Conditions in Comparison with CARMEN-Q.” – Psych. Maria Dabova, Assoc. Prof. Rumyana Kareva, PhD – Rakovski National Defence College

13:30–13:40 – “Interrelationships between Mental Workload and Biofeedback Indicators.” – Psych. Maria Dabova, Assoc. Prof. Rumyana Kareva, PhD – Rakovski National Defence College

13:40–13:50 – “Sleep Quality and Dreaming: Interrelationships and Dynamics During the Antarctic Expedition of the Naval Research Vessel “St. St. Cyril and Methodius” – Prof. Valeri Stoyanov, PhD, Major Rositsa Nedeva, PhD – Nikola Vaptsarov Naval Academy; Verzhiniya Tsvetkova, PhD – Medical University “Prof. Dr. Paraskev Stoyanov”

13:50–14:00 – “Analysis of the Effectiveness of the Model for Attracting and Supporting Young Scientists in the Scientific Programme in Maritime Medicine through the Achievement Measurement Method.” – Major Dr. Rositsa Nedeva – Nikola Vaptsarov Naval Academy; Prof. Dimitar Stavrev, MD, PhD, DSc – Medical University “Prof. Dr. Paraskev Stoyanov”

14:00–14:10 – Discussion

14:10–14:20 – Coffee break

IV. Session “Other”

14:20–15:50

(Conference Hall)

Chair: *Assoc. Prof. Konstantin Georgiev, MD, PhD*

Secretary: *Assoc. Prof. Dimitar Baturon, PhD*

Presentation of papers

14:20–14:30 – “The Role of Artificial Intelligence in the Development of Combat Aviation.” – Prof. Dimitar Nedyalkov – Rakovski National Defence College

14:30–14:40 – “Innovations in National Legislation Concerning Military Medical Expertise.” – Assoc. Prof. Dr. Dimitar Baturon, PhD – National Expert Medical Commission

14:40–14:50 – “Innovations in Medical Practice and Training.” – Dr. Stefan Evropeyski – 12th Air Base “Dolna Mitropolia”

14:50–15:00 – “Rhinosporidiosis – Will We Encounter It in Bulgaria?” – Assoc. Prof. Konstantin Georgiev, MD, PhD, Dr. Katerina Bakhchevanova, Assoc. Prof. Hristo Zlatanov, MD, PhD – Military Medical Academy, Varna; Dr. Lyubomira Zelenska – Military Medical Academy, Sofia

15:00–15:10 – “Black Mamba Bite. A Clinical Case.” – Dr. Katerina Bakhchevanova, Prof. Hristo Bozov – Military Medical Academy, Varna

15:10–15:20 – “The Growing Role of Social Media in Modern Medicine: Proper Use, New Horizons, Ethical Cases and Problems.” – Dr. Svetlin Panev, Dr. Evgeni Ivanov, Dr. Vasil Terzi, PhD – Military Medical Academy, Varna

15:20–15:30 – “Bacterial Urinary Tract Infections and Antibiotic Resistance in Hospitalized Patients.” – Dr. Evgeni Ivanov, Dr. Svetlin Panev, Dr. Vasil Terzi, PhD – Military Medical Academy, Varna

15:30–15:40 – “Quantitative Determination of the Tunnel Effect of Attention of a Virtual Pilot during an In-Flight Emergency.” – Assoc. Prof. Konstantin Metodiev – Institute of Information and Communication Technologies, Bulgarian Academy of Sciences

15:40–15:50 – Discussion

V. Student Scientific Session

14:20–16:40

(Parallel Session – “Ribaritsa” Hall)

Chair: Prof. Dimitar Stavrev, MD, PhD, DSc

Secretary: Tereza Stoyanova

14:20–14:30 – “Accelerated Biological Ageing in an Extreme Environment – Contemporary Mechanisms and Future Perspectives.” – Svetoslava Kumanova, Medical University – Sofia; Margarita Kumanova, PhD – Crisis Management and Disaster Response Centre of Excellence

14:30–14:40 – “Assessment of the Hemodynamic Response to Thermal Stress in Adult Sea Rescuers Under Extreme Climatic Conditions.” – Dr. Dobrinka Doncheva, Teodora Popova, Prof. Dimitar Stavrev, MD, PhD, DSc – Medical University “Prof. Dr. Paraskev Stoyanov”

14:40–14:50 – “Effect of a Stressful Rescue Situation on the Physiological Parameters of Water Rescue Personnel.” – Yordan Shopov, Mihaela Malinova – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Prof. Dimitar Stavrev, MD, PhD, DSc – Medical University “Prof. Dr. Paraskev Stoyanov”

14:50–15:00 – “Relationship between Anthropometric Parameters, Body Composition and Respiratory Function in Trainee Water Rescue Personnel.” – Denitsa Choreva – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Doroteya Yordanova – Medical University “Prof. Dr. Paraskev Stoyanov”; Georgi Kostadinov, Dean Lyubomirov, Snezhana Raycheva, Nikolay Stefanov – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Prof. Dimitar Stavrev, MD, PhD, DSc – Medical University “Prof. Dr. Paraskev Stoyanov”

15:00–15:10 – “Profiling of Spirometric Parameters in Naval Personnel Compared with Patients with Respiratory Disorders.” – Dr. Cindy Gavrilova – Military Medical Academy, Sofia; Georgi Kostadinov – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Dr. Valentina Vlaeva; Prof. Dimitar Stavrev, MD, PhD, DSc – Medical University “Prof. Dr. Paraskev Stoyanov”

15:10–15:20 – “Identification of Key Stressors and Coping Skills Among First-Year Students Admitted in 2022 and 2025 Using Biofeedback.” – Yoana Andonova, Savina Zafirova, Marilyn Nedzhetova – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Major Dr. Rositsa Nedeva – Nikola Vaptsarov Naval Academy

15:20–15:30 – “Life Satisfaction Among Military and Civilian Physicians: Results from a Pilot Comparative Study.” – Senior Chief Petty Officer Nikolay Shapkov – Medical University “Prof. Dr. Paraskev Stoyanov”,

Nikola Vaptsarov Naval Academy; Yoana Kostova – Medical University “Prof. Dr. Paraskev Stoyanov”; Major Dr. Rositsa Nedeva – Nikola Vaptsarov Naval Academy

15:30–15:40 – “Monitoring the Impact of the Military Educational Environment on the Development of Stress-Management Skills: Gender-Based Comparison.” – Yoana Andonova, Savina Zafirova, Marilyn Nedzhetova – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Major Dr. Rositsa Nedeva – Nikola Vaptsarov Naval Academy

15:40–15:50 – “Study of the Impact of Energy Drinks on Sleep Quality Among Students Studying at the Nikola Vaptsarov Naval Academy” – Hristo Tiholov, Denitsa Choreva, Nataliya Georgieva – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Prof. Mario Milkov – Medical University “Prof. Dr. Paraskev Stoyanov”; Major Dr. Rositsa Nedeva – Nikola Vaptsarov Naval Academy

15:50–16:00 – “Implementation of the Light-Sound Relaxation Method in Maritime Medicine.” – Yana Mihaylova, Tereza Stoyanova – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Teodora Popova, Prof. Dimitar Stavrev, MD, PhD, DSc – Medical University “Prof. Dr. Paraskev Stoyanov”

16:00–16:10 – “Establishment of a University Emergency Team Within the Bulgarian Red Cross – Varna and Its Integration into the Unified Rescue System.” – Todor Tachev, Tereza Stoyanova, Valya Rizova – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Prof. Dimitar Stavrev, MD, PhD, DSc – Medical University “Prof. Dr. Paraskev Stoyanov”

16:10–16:20 – “Prospects for the Application of Nanotechnologies in Aeromedical Evacuation as Means of Managing Traumatic Hemorrhage.” – Lt. Nadezhda Kostova, Lt. Anisiya Aleksieva – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Lt. Dr. Nikoleta Malinova – Military Medical Academy, Varna

16:20–16:30 – “The Path from Maritime to Space Medicine. Challenges, Adaptation and Work in Extreme Conditions.” – Yana Mihaylova, Tereza Stoyanova – Medical University “Prof. Dr. Paraskev Stoyanov”, Nikola Vaptsarov Naval Academy; Teodora Popova, Prof. Dimitar Stavrev, MD, PhD, DSc – Medical University “Prof. Dr. Paraskev Stoyanov”

16:30–16:40 – Discussion

17:00–17:30 – **General Assembly of the Bulgarian Association of Aviation, Navy and Space Medicine**

Closing of the XV Scientific Conference of the Bulgarian Association of Aviation, Maritime and Space Medicine

19:30–22:00 – **Gala dinner**

12th September 2026 /Saturday/

08:30–10:30 – **Panel Discussion:** “The Limits of Human Capabilities – A Cornerstone of Aviation Safety and Efficiency”.

Moderator:

Prof. Lyubomir Aleksiev, MD, PhD

Participants:

Prof. Tatyana Yancheva, PhD

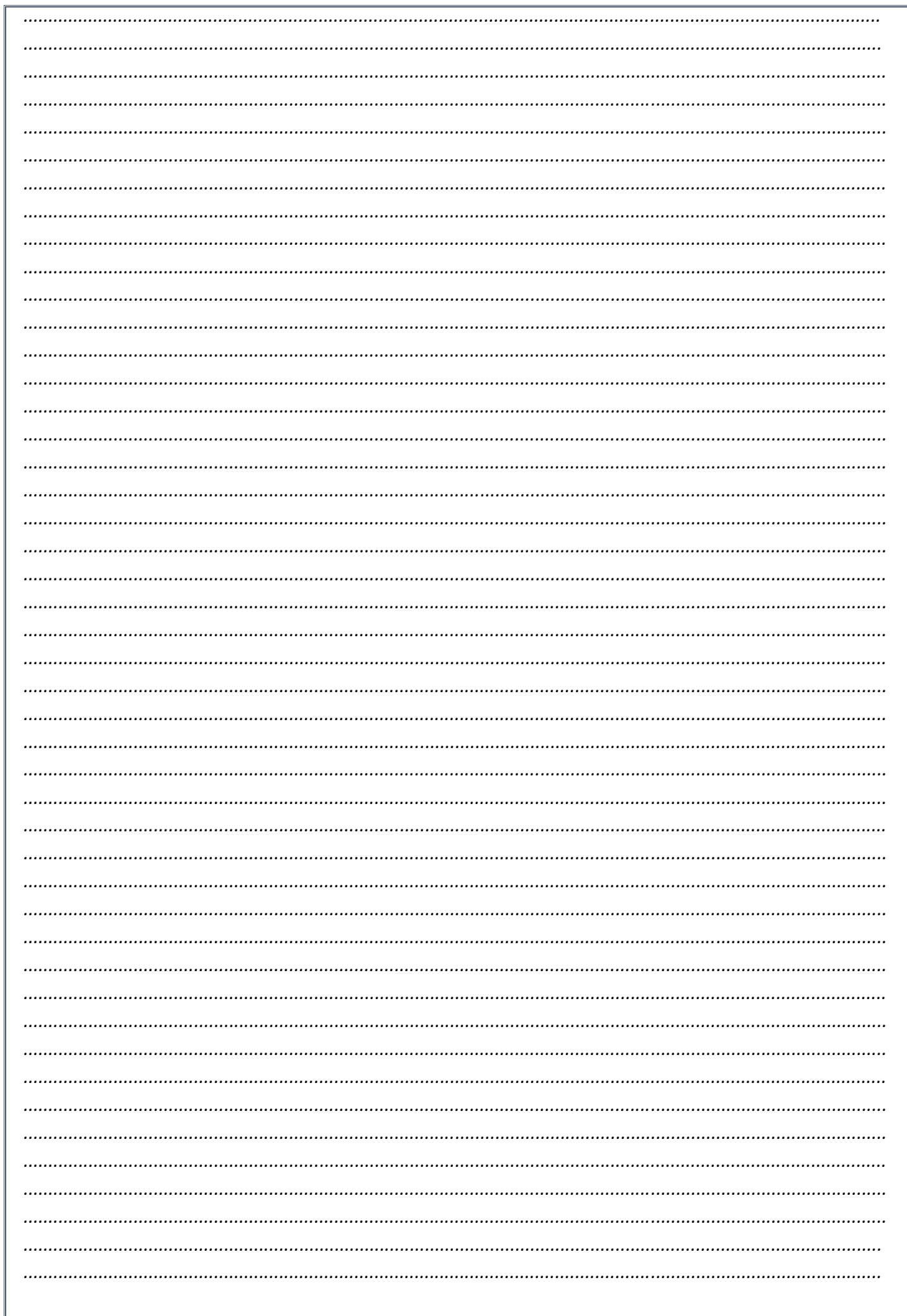
Ms. Ina Ananieva

Mr. Nikolay Kalaydzhiev

Dr. Deanna Aleksandrova, PhD

Mr. Todor Ivandzhikov

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