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## **DEFENCE INSTITUTE „PROFESSOR TSVETAN LAZAROV“**

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### **STANDPOINT**

by Associate Professor Dr. Eng. Ivan Stefanov Hristozov,

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of the scientific papers submitted in the competition for the academic position of "Associate Professor" for servicemen,  
in scientific field 5. Technical sciences,  
professional field 5.2. Electrical engineering, electronics and automation,  
in the scientific specialty "Automated systems for information processing and management"

for the needs of the Research Department "Information Systems and Information Protection" of the Directorate "Development of C4I Systems" at the Defence Institute "Professor Tsvetan Lazarov", published in the State Gazette, 109 / 21.12.2021 in accordance with Order № OX-1130 of 10.12.2021 of the Minister of Defense of the Republic of Bulgaria.

of the candidate Major Dr. Angel Dimitrov Genchev, Senior Expert in the Department of Information Systems and Information Protection of the Directorate "Development of C4I Systems" at the Defence Institute "Professor Tsvetan Lazarov".

## **1. General characteristics of the research, scientific-applied and pedagogical activity of the candidate.**

In the current competition for the academic position of "Associate Professor" for servicemen, the only candidate is Major Dr. Eng. Angel Dimitrov Genchev.

According to the author's reference provided by Dr. Genchev, the list of his scientific products contains 25 titles, of which he participated in this competition with 20 scientific papers (1 monograph, 19 articles and reports) published in the period 2009 - 2021. Four of the presented for review publications are in English, the rest are in Bulgarian.

Papers presented for review are in the field of information and communication systems, cybersecurity, data centers and cloud environments, collaboration information environments and computer aided decision support systems, automated management systems and applications for defense needs.

The provided materials correspond to the minimum scientometric indicators, defined in the Regulations for application of ZRASRB for professional field 5.2. Electrical engineering, electronics and automation.

Major Dr. Angel Genchev has participated in working groups on international and national research projects and developments, the most important of which are: "Homemade Explosives and Recipes characterizations", "European network of Cybersecurity center and competence Hub for innovation and Operations". CyberTwin project, Malicious Network Activities Monitoring and Data Analysis project.

All this allows the candidate to be characterized as a researcher and implementer in the professional field of the competition.

## **2. Evaluation of the special preparation and activity of the candidate.**

Major Dr. Angel Genchev has been working in the military, scientific and military-scientific field since 1998, mainly in specialized units for construction and development of information and communication systems and technologies for the needs of defense.

In 2006 Angel Genchev obtained the educational and scientific degree "Doctor" in the scientific specialty 02.07.20 "Communication Networks and Systems" after defending a dissertation on "Adaptive management of frequency resources in mobile cellular radio networks for military purposes."

I have known Dr. Angel Genchev since 2004 as an excellent professional. The impressions I have from his work as a researcher and expert give me reason to say that the candidate has the necessary special training in the field of competition.

### **3. Main scientific results and contributions.**

I determine the essence of the results and contributions of Dr. Genchev, such as:

- Enrichment of existing knowledge: monograph (II.1.1); publications II.2.1, II.2.2; II.2.8, II.2.10, II.2.12, II.2.16, II.2.17 and II.2.21;
- Application of scientific achievements in practice: papers II.2.3, II.2.4, II.2.5, II.2.6, II.2.7, II.2.9, II.2.11, II.2.13 and II.2.18.

The main contributions in the field of "Research related to information and communication systems and technologies, cybersecurity, data centers and cloud environments" are:

- The following were studied: aspects of risk analysis in security and defense information systems (II.2.1); the possibility of using diskless workstations (II.2.3) in them; the possibilities for information protection in corporate information systems (2.10), for application of virtualization systems in data centers for the needs of BA (II.2.5), for georeferencing and mapping of the sources of cyber attacks on electronic maps (II.2.12) ; approaches used in cyber incident modeling (II.2.20);
- Developed are: software IP telephony solutions (II.2.15); the use of virtualization to isolate processes with access to a non-virtual file system for storing large volumes of data (II.2.7); methodology for the analysis of multi-sector cyber incidents (II.2.21);
- presented are some requirements for the design and construction of data centers and data center systems (II.1.1, II.2.8);
- The concepts of intelligent defense are applied to the IT infrastructure supporting joint missions and operations (II.2.4);
- a conceptual model for protection of departmental WEB sites against disfigurement has been proposed (II.2.17).

In the field of "Research related to integrated information environments for collaboration and computer systems to support decision-making in crisis management" the main contributions are:

- an architectural approach is proposed to create an information environment for collaboration (II.2.2) and an approach to using a single computer system by several users (II.2.6);
- the ways of acquiring sensory data from unmanned aerial vehicles (II.2.9, II.2.11, II.2.13) are studied and methods for translating visual-sensory information over rough terrain (II.2.14) and solutions for visualization of this information in (II.2.18);
- a model of the crisis management decision-making process has been developed using the apparatus of aggregate sets (II.2.16).

In the area "Automated control systems, automated information systems and application programs for the needs of defense" the results are mainly applied. Designed, developed and implemented in the structures of defense are computer developments of operational and tactical tasks, complexes and systems in which

innovative approaches for automated information processing are applied (collaboration environment (II.4.9); technical and economic requirements (III .7) and tactical-technical assignment (III.8) for modernization of the departmental information system of the Ministry of Defense and the Armed Forces on a cloud platform; decision support system by using information from mobile vehicles (II.4.10.).

Of the 20 publications submitted for review, one of which is a monograph, the candidate is the sole author of eight of them, and in four he is in first place, which confirms his personal contribution.

In the course of my work as a member of the scientific jury, no non-anonymous and motivated written signal was received to establish plagiarism in the monograph and other publications of the candidate in the competition.

#### **4. Assessment of the significance of contributions to science and practice.**

The analysis of the results and contributions of Major Dr. Eng. Genchev shows the professional knowledge of the problems and the appropriate combination of research and implementation, which leads to specific and useful solutions. The candidate demonstrates his high scientific training, knowledge and skills in 4 international, 3 national and 8 departmental research projects, as well as in 8 other developments.

The candidate has proved a total of 10 (ten) citations, in which the results of the materials proposed for review have found a place. Of these, 3 are in scientific journals, referenced and indexed in world-famous databases of scientific information, 7 are in collective volumes with scientific review.

#### **5. Critical remarks on peer-reviewed papers.**

I have no special critical remarks on the scientific papers submitted for review. They clearly state the statements, the goals, formulate the tasks and define the framework of the research. Through the results summarized in the conclusions, new facts are obtained and proved or existing ones are confirmed.

#### **6. Conclusion.**

Considering the overall research and implementation activities of the candidate and the positive evaluation of his contributions and results, I believe that the only participant in the competition Angel Dimitrov Genchev fully meets the requirements of ZRAS in Bulgaria, the Rules for its implementation and the Rules for employment. to academic positions at the Institute of Defense "Professor Tsvetan Lazarov".

I propose to the esteemed members of the scientific jury to vote for the award of the scientific title "Associate Professor" to Major Dr. Eng. Angel Dimitrov Genchev in the field of higher education 5. Technical sciences, professional field 5.2. Electrical engineering, electronics and automation, in the

scientific specialty "Automated systems for information processing and control"

**7. Evaluation of the candidates.**

In view of the above, I give a **positive** assessment to the only candidate in the competition, Major Dr. Eng. Angel Dimitrov Genchev.

Date  
06.04.2022 г.

Member of the jury  
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(*Assoc. Prof. Dr. Eng Ivan Hristozov*)