



## **MINISTRY OF DEFENCE**

### **DEFENSE INSTITUTE "PROFESSOR TSVETAN LAZAROV"**

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## **OPINION**

by Prof. Dr. Eng. Dimitar Zhivkov Dimitrov,  
Todor Kableshkov University of Transport – 1574 Sofia, 158 Geo Milev Str.

on the competition for the academic position "**PROFESSOR**"  
for a serviceman in the field of higher education 5. Technical Sciences,  
professional field 5.3 Communication and Computer Engineering, scientific  
specialty "Information Technologies and Cybersecurity", announced in the State  
Gazette, issue 8 1 of 11.1 0.202 2, according to Order of the Minister of  
Defense No OX-916 / 28.09.2022

with the candidate:

Colonel Assoc. Prof. Dr. Nikolay Todorov Stoyanov  
Deputy Director of the Defense Institute "Professor Tsvetan Lazarov"

## **1. GENERAL CHARACTERISTICS OF THE CANDIDATE'S RESEARCH, APPLIED SCIENCE AND PEDAGOGICAL ACTIVITIES**

Colonel Assoc. Prof. Dr. Nikolay Todorov Stoyanov has been working in the military, scientific and military-scientific field since the beginning of his career, which includes various educational institutions and research institutes, as well as specialized units for the construction and development of information and communication systems and technologies for the needs of defense and information protection systems. In addition to being a scientific expert in his field, he has extensive administrative experience and occupies a number of command and management positions and is currently Deputy Director of the Defense Institute "Professor Tsvetan Lazarov".

His academic production is entirely in the field of the competition he applied for and is related to: -automated systems – information management and protection; -use of autonomy i c means to improve the security of sites of particular interest; -risk analysis for information systems; cryptography, information protection tools and standards; -risk analysis for information systems and networks; -using good practices in information security, cyber protection, etc.

The total quantity of publications and teaching aids as an author and co-author includes 3 monographs, 3 university textbooks, 1 study and 129 publications (79 in Bulgarian, 2 in Ukrainian and 60 in English). In publications indexed in world-renowned databases and including SJR there are 18 publications (Q1 (II.3.80, II.3.82), Q3 (II.3.110), and Q4 (II.3.75, II.3.100, II.3.101, II.3.102)).

In the competition for "Professor" the candidate participates with 1 monograph, 1 chapter of a collective monograph, 3 published university textbooks, 1 studio, and 41 publications. The monograph is dedicated to a summary of research related to risk analysis and management for the information security of computer information systems.

In terms of research and applied activities, he participates with an asset of 26 international projects, 4 of which is a coordinator, in 4 national scientific projects (in one as a manager).

His pedagogical activity is related to the training of PhD students and students – he is a leader of 7 doctoral students, 2 of whom have successfully defended, he is also a part-time university lecturer in this field.

I accept the documentation and self-assessment of compliance with the minimum national requirements, Colonel. Assoc. Prof. Stoyanov exceeds these minimum requirements in accordance with the Law on the Development of the Academic Staff of the Republic of Bulgaria (ZRASRB) and the Regulations for its implementation.

## **2. ASSESSMENT OF THE APPLICANT'S SPECIAL TRAINING AND ACTIVITIES**

Colonel Assoc. Prof. Stoyanov has been working for more than 20 years in the field of security of information and communication technologies for the needs of the Ministry of Defense.

He completed his higher education at the University of Military Administration "P. Volov", Shumen, specialty "Automated Troop Control Systems". He has three master's degrees in the Military Academy "G. With. Rakovski" specialty and "National Security and Defense", "Organization and Management of Computer Information Systems in Operational and Tactical Formations" and "Strategic Management of Defense and Armed Forces" and PhD degree since 2004. in scientific specialty 02.21.07 "Automated Information Processing and Management Systems" with the topic of the dissertation "Models of Protected Interaction in Computer Systems for Security and Defense" at the Institute for Advanced Defense Studies (IPE). He has two specializations in CISCO Network Academy (IPIO) and English level 3, as well as 8 certificates: Implementing and Managing Exchange 2003; Administrating Microsoft Share Point Portal Server 2003; Designing IT Platform Collaborative Applications with Microsoft Share Point 2003; Microsoft SQL Server 2005 for the Experienced Oracle Database Administrator; Information System Audit and Control Association (ISACA) Sofia; Information System Audit and Control Association (ISACA) Sofia; Gold certificate for achieved high professional success as a systems engineer, security administrator and designer of Automated

Management System; Regional Distinguished Young AFCEAN - AFCEA International.

I know the candidate personally, and this is related not only to the theoretical foundations and foundations in the described areas, but also to their application in practice. In addition, he has extensive administrative and managerial experience, which allows him to successfully manage scientific applied projects, forums, and teams, as evidenced by a small number of projects and forums in which he participates, incl. and the fact that he is in the top management of the Defense Institute.

### **3. MAIN SCIENTIFIC RESULTS AND CONTRIBUTIONS**

The scientific papers and publications submitted for review cover the following main areas of research:

- **Approaches, models, architectures, research and good practices in the field of information protection** – monograph [II.1.6], university textbooks (II.1.3, II.1.4, and II.1.8), information protection models in emerging cloud architectures ( II.3.71, II.3.88), publications [II.3.73, II.3.75, II.3.79, II.3.80, II.3.82, II.3.90, II.3.94) and research projects II.4.24, II.4.30, SPIDER .
- **Cryptography, methods, and mechanisms – studies in II.3.70.** and the obtained results in II.3.72, II.3.81, II.3.100, II.3.105.
- **Cybersecurity and cyber defense – application in critical information infrastructures [II.2.11, II.2.12, II.3.76, II.3.78, II.3.92, II.3.93, II.3.95], cybersecurity [II.3.85], assessment of critical infrastructures in the Republic of Bulgaria under the general leadership of NATO [II.3.89], multilayer model for cybersecurity [II.3.92], approaches to analysis and assessment of cybersecurity at strategic, operational and tactical (technical) level of various organizations such as NATO and the EU. [II.1.5, II.1.7, II.3.77, II.3.78, II.3.86, II.3.87, II.3.93, II.3.99, II.3.103, II.3.104], approaches to testing vulnerabilities, threats and countermeasures to cyberattacks (II.3.84, II.3.95, II.3.96, II.3.97, II.3.98, II.3.99, II.3.101, II.3.107, II.3.108, II.3.110) and approbations in**

publications they: Internet of Things and Internet of Military Things – II.3.83, II.3.91, Blockchain – II.3.102, situational awareness – II.3.106, II.3.109.

#### **4. ASSESSMENT OF THE SIGNIFICANCE OF CONTRIBUTIONS TO SCIENCE AND PRACTICE**

My assessment is positive. The received scientific and applied transfers are tested in the projects MAMA (departmental – MO), ECHO (international H2020), FORESIGHT (international H2020), CyRADARS (NATO SPS), CyNET (international – MES), CyberTwin (international – MES), PYTHIA (international PADR) and SOLOMON (international PADR).

#### **5. CRITICAL REMARKS ON SUBMITTED PAPERS**

I have no significant critical comments about the candidate's work. For pragmatic reasons, i would recommend reducing the volume of the presented scientific production in the competition within the nominal requirements.

#### **6. CONCLUSION**

I express my conviction that Colonel Assoc. Prof. Stoyanov is a highly erudite, educated, and correct scientist and researcher, and the initial state requirements of the Faculty of Labor and Water for the academic position of "Professor" in volume and scientific significance are overfulfilled. This gives me grounds to express my positive opinion and to propose to the honorable members of the scientific jury to support the award of the academic position "**Professor**" for a serviceman in the field of higher education 5. Technical Sciences, professional field 5.3 Communication and Computer Engineering, scientific specialty "Information Technologies and Cybersecurity" of Colonel Assoc. Prof. Dr. Nikolay Todorov Stoyanov.

20 January 2023  
Sofia

REVIEWER...../S/.....  
/Prof. Dr. Eng. D. Dimitrov