



**МИНИСТЕРСТВО НА ОТБРАНАТА**  
**ИНСТИТУТ ПО ОТБРАНА „ПРОФЕСОР ЦВЕТАН ЛАЗАРОВ”**  
София 1592, бул. „Проф. Цветан Лазаров” № 2, факс: 02/92 21 808, <http://di.mod.bg>

**REVIEW**

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on the competition for the academic position "Professor"  
for a military officer in the field of higher education 5. "Technical Sciences",  
professional field 5.3. "Communication and Computer Technology", announced  
in the State Gazette (issue 81, 11.10.2022), in pursuance of Order of the  
Minister of Defense No OX-916, 28.09.2022 announcing a competition and  
Decision of the Scientific Council of Bulgarian Defence Institute "Professor  
Tsvetan Lazarov"  
for selection of a Scientific Jury, Minutes No84, 09.12.2022

with a single candidate:  
**Col. Assoc. Prof. Dr. Eng. Nikolai Todorov Stoianov,**  
Deputy Director of the Bulgarian Defence Institute "Professor Tsvetan Lazarov"

## **I. GENERAL INFORMATION ON THE COMPETITION**

The competition is for the academic position of "professor" for the needs of the Bulgarian Defence Institute "Professor Tsvetan Lazarov". It is in the field of higher education education 5. "Technical Sciences", professional field 5.3. "Communication and Computer Technology", announced by Order of the Minister of Defence No HH-916 of 28.09.2022 and in the State Gazette, issue 81 of 11.10.2022.

Applicant in the competition: Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov.

## **II. BRIEF INFORMATION ABOUT THE CANDIDATE**

Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov was born on 03.10.1974 in the town of Pirdop. He completed his secondary education in his hometown in 1992. In 1997 he graduated from the Higher Military School of Artillery and Air Defence „Panayot Volov“, Shumen, speciality "Military Cybernetics", qualification "Engineer in Computing Technology". In 2010 he graduated from the Military Academy "G. S. Rakovski".

In 2004, after defending the dissertation, Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov was awarded with the educational and scientific degree "Doctor" by the Higher Attestation Commission.

Since 2013 he has been on the academic position of "Associate Professor" at the Bulgarian Defence Institute "Professor Tsvetan Lazarov", and is currently in the position of Deputy Director.

## **III. GENERAL DESCRIPTION OF SUBMITTED MATERIALS**

The total scientific output of the candidate includes 133 titles, of which 82 in Bulgarian, 60 in English and 2 in Ukrainian. Of these, 36 are independent work of the contender. In 21 of the publications in co-authorship, the contender ranks in the first place. Eighteen publications are in publications indexed in worldwide databases with SJR: 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] .

For review under this competition, Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov has presented 47 titles, as follows: 1 monograph; 1 chapter of a collective monograph; 3 university textbooks; 1 study and 41 articles and scientific reports. This scientific work is from the thematic focus of the competition, as the presented titles are not reviewed in the habilitation of Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov for occupying the academic position of Associate Professor.

I accept for review all scientific papers submitted by the candidate.

In forming the general assessment of the scientific activity of Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov I take into account his entire scientific work.

#### **IV. THEMATIC FOCUS OF SCIENTIFIC WORKS**

Based on the analysis of the scientific researches of Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov could be concluded that his scientific interests have a wide scope, many times exceeding the theme of this competition and demonstrate a variety of creative activity. His research has a clear scientific and applied scientific focus. The scientific papers submitted for review cover the following areas:

1. Methods, approaches, models and studies related to the information security, including in the specifics of the Bulgarian Army.
2. Cryptographic methods, models and algorithms.
3. Methods, approaches, applied solutions, etc., related to providing cyber security, co-prevention and cyber counteraction.

#### **V. CONTRIBUTIONS IN THE SCIENTIFIC WORKS**

As a scientific contribution of methodical nature, I accept the approaches and methodology for solving specific problems in the field of information security in the development, design, construction and implementation of automated control systems in the specific conditions of the Bulgarian Army.

1. Systematization of knowledge in a wide scientific field, covering both the thematic focus of this competition and extending beyond it, throughout the scientific production of the candidate.
2. Methods and algorithms for the information security in computer networks, together with the proposed methods for analysis and assessment of information security in them [II.1.3, II.1.4, II. 1. 6, II.1.8].
3. Methods and solutions related to the information security, disseminated in specific network configurations [II.3.73, II.3.75, II.3.79, II.3.80, II.3.82, II.3.90, II.3.94, II.4.24, II.4.30, ].
4. The research of "quantum resistance" cryptographic systems, considered also from the point of view of their applications in the conditions of the Bulgarian Army [II.3.72, II.3.81, II.3.100, II.3.105] .
5. Methods for analysis, synthesis and structuring of cybersecurity systems, including developed technological, including multi-layer models, along with the proposed cybersecurity metric [II.2.11, II.2.12, , II.3.76, II.3.78, II.3.85, II.3.89, II.3.92, II.3.93 , , II.3.95] .
6. Methods and approaches for assessing the cybersecurity of information systems and networks functioning for the needs of defence, based and on developed mathematical models of information processes occurring in them [II.1.5, II.1.7, II.3.77, II.3.78, II.3.84, II.3.86, II.3.87, II.3.93, II.3.95, II.3.96, II.3.97, II.3.98, II.3.99 , , , II.3.101 , II.3.103, II.3.104, II.3.107, II.3.108, II.3.110].

The scientific works of Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov are his personal work, a claim about which I have no reason

to doubt. By their nature and content, they have a pronounced theoretical orientation, which defines them as significant for science and practice.

## **VI. APPLIED CONTRIBUTIONS**

The results of the candidate's studies, which show their applicability and content, in the full scope of his scientific production.

## **VII. PERSONAL IMPRESSIONS**

I know well the candidate, including our joint long-standing work in research institutes and structures related to the defence of the country. I am also familiar with a significant part of its scientific work, which by its nature and content cannot be the subject of public discussion. My detailed acquaintance with the materials of this competition further strengthened my idea of Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov as a renowned scientist and lecturer. The latter is also reinforced by the PhD students trained by him.

## **CONCLUSION**

The analysis of the scientific production of Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov gives me reason to conclude that he is a complete and renowned scientist. In view of this and taking into account the requirements of the "Law on the Development of the Academic Staff of the Republic of Bulgaria" and the Rules for its implementation, as well as what has been said in the full scope of this review, **I will vote positively** for the election of Colonel Associate Professor Dr. Eng. Nikolai Todorov Stoianov for taking up the academic position "PROFESSOR" at the Defense Institute "Professor Tsvetan Lazarov".

**PROFESSOR ATANAS NACHEV**

/S/

**DOCTOR OF TECHNICAL SCIENCES**

Jan 16, 2023

Sofia