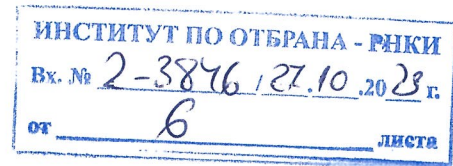




REPUBLIC OF BULGARIA
NIKOLA VAPTSAROV NAVAL ACADEMY

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“FILII MARIS SUMUS”



STANDPOINT

by Professor, PhD, Eng. Yuliyan Ivanov Tsonev,

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in the competition for the academic position of “Associate Professor”,
field of higher education 5. Technical Sciences, professional subfield 5.3.

Communication and Computer Engineering (Communication Networks and Systems)

– one position, announced in the State Gazette (Issue 61/18.07.2023),

with candidate Engineer Grigor Raykov Velev, PhD

1. General characteristics of the candidate's research, applied, and pedagogical activities.

For the competition for the academic position of "Associate Professor," announced in issue 61/July 18, 2023, of the "State Gazette," the sole applicant is Dr. Eng. Grigor Raykov Velev. For this competition, the candidate has submitted 17 articles and reports, a monograph, and a book, with 5 of the publications in English and the rest in Bulgarian. The publications were made in the period from 2011 to the present year, 2023. All of them are in the field of communication and information technologies, mobile networks, sensor networks, and automated information systems. This gives me reason to conclude that all the publications provided by the candidate can be related to the professional direction 5.3, Communication and Computer Engineering, for which the competition is announced.

A thorough analysis of a significant portion of the publications demonstrates his qualities as a researcher, and the fact that some of them are co-authored showcases his ability to work in research teams. This is also supported by his participation in 12 research projects, 7 of which are international. In three of the national projects, he participated as a project leader. Taking this into mind, along with the fact that in his professional career, the candidate has served as the Director of the "C4I Systems Development" Directorate and led various project teams for the design and construction of various communication and information systems, one can judge his good qualities as an organizer and leader.

Impressive is the practical implementation of a significant portion of the research by applying the obtained results, primarily for the needs of defence, development, and expansion of the Fixed Communication System of the Bulgarian Army.

In summary, the above-mentioned facts give me grounds to characterize Dr. Velev as a researcher and implementer with good organizational skills.

2. Evaluation of the candidate's special training and activities.

Dr. Grigor Velev has successfully completed 6 qualification courses, including "Device, Operation, and Combat Use of Tropospheric and Radio Relay Stations," "Course on SDH, PDH, SRAL Radio Systems and EM-OS Management Systems," "Digital Communications Course," "Course on Working with SDH 1660 SM and 1320 Management - Alcatel," "Network Manager Training Course," and "Strategic Course: Leadership in the National Security and Defense System." Three of these courses were conducted abroad. A significant portion of the qualification courses falls within the scope of the professional direction 5.3. Communication and Computer Engineering, and have undoubtedly contributed to the enhancement of the candidate Dr. Velev's special training. He also holds a certificate of English language proficiency according to STANAG 6001.

His scientific career began with his PhD studies in 2014, which he successfully completed by defending his dissertation, "Routing Models in Mobile Self-Organizing Networks for Security and Defense," in 2018. His dissertation was completed as part of the doctoral program in "Radio Transmitting and Receiving Equipment" under professional subfield 5.3. Communication and Computer Engineering. The completed qualification courses and the acquired academic degree of "doctor" demonstrate the candidate's strong special training in the professional field for which the current competition is announced.

In addition, I consider it relevant to mention that in his professional career, Dr. Velev has worked in various military formations and scientific institutes, as well as specialized units for the development of communication systems and technologies for defence needs. While holding various positions in the "Communication Networks and Communication System Development" department at the Communications and Information Systems Directorate (CISD), he has been the head of the "C4I Systems Development and Information Protection" department, and Director of the "C4I Systems Development Directorate". He has continually improved his qualifications,

experience, and special training while leading teams with research and applied tasks related to the analysis and design of various communication and information systems.

The information provided above gives me reason to summarize that Dr. Grigor Velev possesses the necessary knowledge, skills, experience, and training to hold the academic position of "Associate Professor" in the professional subfield 5.3. Communication and Computer Engineering.

3. Main Scientific Results and Contributions.

As the main scientific results and contributions in Dr. Velev's publications, I consider the following:

- he has analysed the routing protocols used in Mobile Ad-hoc Networks (MANET) [II.2.2, II.2.5, II.2.7]. The contribution is in the enrichment of existing knowledge;
- he developed a generalized network model for MANET in the book [I.2] and proposed a modified Ad hoc On-Demand Distance Vector (AODV) routing protocol with parameters of intermediate devices that build the route, as presented in publication [II.2.12]. This contribution is a new approach to determining an optimal route in mobile networks;
- he proposed an approach to building departmental telecommunication networks [II.2.1, II.2.3], and in the monograph [II.1.1], as well as in [III.1, III.5, III.7], he presented the developed system and technical requirements and working projects [III.2, III.3, III.4] for the establishment of a departmental communication-information system in the Ministry of Defence. This contribution represents the application of scientific achievements in practice;
- he analysed the characteristics of using a sensor platform and network for internal deployment and external radio frequency reconnaissance in urban operations [II.2.8, II.2.9, II.2.11] and defined the basic requirements and spatiotemporal parameters in which technical means for acquiring information and data must operate. The contribution is in enriching existing knowledge;

- he analysed some cyber risks at sea [II.2.15] for cruise ships, and in [II.3.5], he explored possibilities for building tools for analysing cyberattacks. The contribution is in extending existing knowledge;
- he conducted a comparative analysis of various open-source honeypots [II.2.13]. The contribution is in the application of scientific achievements in practice;
- in [II.4.3], he analysed possibilities for acquiring, sending, and visualizing information from an area of operational (crisis) situation in an operational decision-making center using mobile ground, water, and unmanned aerial vehicles, followed by computer processing of sensor information. The contribution enriches existing knowledge with the application of the obtained results and achievements in practice.

In conclusion, I accept the claims of Dr. Velev for the achieved results and contributions in the summarized manner above. I consider the contributions to be his own, where he is the sole author in the respective publication, and proportionally, where he is a co-author or a member of a scientific or working team.

4. Evaluation of the significance of contributions to science and practice.

I was provided with all 17 publications in electronic format, as well as a monograph and a book in which the candidate participates in the competition. All the materials provided to me are of a very high scientific level, demonstrating a high level of theoretical preparation and real practical experience that enables the candidate to solve numerous research tasks and implement the obtained results in various communication and information systems.

The significance of his contributions to science can be judged by the number of citations, which is 17. Two of them are in scientific publications referenced in globally recognized databases with scientific information, and 15 are in other peer-reviewed publications. The significance of the contributions to practice is undeniable,

as a large portion of the obtained results have been implemented in various communication systems in the field of defense.

5. Critical remarks on the presented works.

I have no remarks regarding the publications provided for my review. As a general critical note, I would emphasize the necessity of publishing the results of the candidate's scientific research in journals referenced in Scopus and Web of Science.

6. Conclusion.

Dr. Grigor Velev meets the minimum requirements for criteria "A" and "B" in the professional field of 5.3, Communication and Computer Engineering, and exceeds the minimum requirements for criteria "Г" and "Д" outlined in the "Regulation for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria" (RISADS).

Considering his overall research, practical, and implementation activities, the achieved results and contributions, as well as his alignment with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (RISARB), I find it justified to recommend Dr. Grigor Raykov Velev for the academic position of "Associate Professor" in accordance with the announcement published in the State Gazette (Issue 61/18.07.2023).

7. Evaluation of the candidates.

I give a final positive evaluation of the candidate, Dr. Eng. Grigor Raykov Velev, in the competition for the academic position of "Associate Professor" in the field of higher education 5. Technical Sciences, professional subfield 5.3. Communication and Computer Engineering (Communication Networks and Systems).

Member of the jury: /S/

26.10.2023

(Prof., Eng. Yuliyana Tsoneva, PhD)