
ИНСТИТУТ ПО ОТБРАНА „ПРОФЕСОР ЦВЕТАН ЛАЗАРОВ“

ИНСТИТУТ ПО ОТБРАНА - РНКИ	
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OPINION

by Professor D.Sc. Atanas Ivanov Nachev,
University of Library Studies and Information Technologies,
Mobile: 0878742987.

Regarding: The scientific works of Dr. Eng. Grigor Raykov Velev, submitted for participation in the competition for the academic position of 'Associate Professor'.

Sofia

2023

The competition is in the field of higher education 5. Technical Sciences, professional direction 5.3. Communication and Computer Engineering (Communication Networks and Systems). It was announced in the 'State Gazette,' issue 61/July 18, 2023, for the needs of the Scientific Research Department 'Information Systems and Information Security' of the Directorate 'C4I Systems Development' at the Institute of Defense 'Professor Tsvetan Lazarov.'

1. General Overview of the Scientific, Scientific-Applicative, and Pedagogical Activities of the Candidate

In the current competition for the academic position of 'Associate Professor,' there is only one candidate, Dr. Eng. Grigor Raykov Velev.

For review, he has submitted 19 publications, including 1 monograph, 1 book based on his dissertation work, and 17 scientific articles and reports. Of these publications, 5 are in English, while the rest are in Bulgarian.

The submitted works for review are in the field of the competition and cover the following areas: communication and information technologies for defence needs, mobile networks, routing in mobile networks, sensors and sensor systems, automated information systems for defence needs. The scientific works submitted for review meet the requirements for the academic position of 'Associate Professor' in the scientific field of the current competition, as defined in the 'Regulation for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria'.

From the provided documents, it can be seen that the candidate has participated in 7 international and 5 national scientific projects, with him serving as the project lead in 3 of them".

2. Evaluation of the Candidate's Specialized Training and Activities

Dr. Eng. Grigor Velev has been working in the field related to the subject of this competition since 1986. He has held various positions related to the development of communication and information systems for defence, including the role of the head of the "C4I Systems Development and Information Security" department at the Institute of Defense. He has also served as the director of the Directorate "C4I Systems Development" in the same institute. He has made a significant contribution as both an executor and a leader of teams engaged in systems analysis, design, and construction related to the communication infrastructure of the military. He has led a team working on the construction and development of the Fixed Communication System of the Bulgarian Armed Forces.

After defending his dissertation, Eng. Grigor Velev was awarded the educational and scientific degree of "Doctor" in 2018. His dissertation research is related to routing in mobile ad hoc networks.

Personal Impressions: I am well-acquainted with Eng. Dr. Grigor Velev from our joint work on issues related to the automation and communication support of the Bulgarian Army. He has consistently demonstrated a high level of professional training and a responsible approach to his job duties. I am also familiar with a portion of the candidate's scientific production, which, due to its specificity, cannot be the subject of broad discussion. My thorough review of the materials for this competition further solidified my belief that Dr. Eng. Grigor Velev is an accomplished researcher with rich professional experience in the field of this competition.

3. Key Scientific Results and Contributions

I define the essence of the obtained results and contributions of Dr. Eng. Grigor Velev as follows:

A. Enrichment of existing knowledge in the entirety of the candidate's scientific output.

B. Scientific research with proven theoretical and applied significance, as follows:

- Routing protocols for Mobile Ad-Hoc Networks (MANET) have been proposed [II.2.2, II.2.5, II.2.7].
- Models of MANET have been proposed [II.1.2, II.2.12].
- A method and model for hierarchical cluster routing in MANET networks have been developed [II.2.10], and its efficiency has been demonstrated.
- Methods for assessing the vulnerability of MANET have been proposed [II.2.6].
- An analysis, using a methodology developed for this purpose, has been carried out on technologies for the design and construction of telecommunications networks [II.1.1, II.2.1, II.2.3].
- System requirements have been developed [III.1, III.5, III.7, III.8, III.9, III.10] for the construction of departmental communication-information systems. Based on these, project work has been developed [II.3.1, II.3.2, III.2, III.3, III.4] for such networks and for programs and methodologies for their implementation [III.6].
- Tactical requirements have been defined for technical means to obtain information in a system for improving situational awareness within buildings and presenting them in real-time [II.2.8, II.2.9, II.2.11, II.3.11].

- Methods for obtaining, exchanging, and displaying information from the field within the scope of various specialized systems have been investigated [II.3.3, II.3.4, II.3.5].

4. Evaluation of the Significance of Contributions to Science and Practice

The high scientific significance of the contributions made in the candidate's research papers is confirmed by 17 citations, of which 2 are in scientific publications referenced and indexed in globally recognized databases of scientific information, and 15 are in collective volumes with scientific peer-review.

5. Critical Comments on the Reviewed Works

I have no significant critical comments regarding the scientific works submitted for review.

6. Evaluation of the Candidates

Taking into account the contributions in the scientific output of Eng. Dr. Grigor Velev and what has been stated in the full extent of this opinion, I give him a **positive evaluation**.

7. Conclusion

Considering the information provided in this opinion, I will vote positively for the appointment of Dr. Eng. Grigor Velev to the academic position of "Associate Professor" in the field of higher education 5. Technical Sciences, professional field 5.3 Communication and Computer Engineering (Communication Networks and Systems).

Date: 23 October 2023

Member of Jury: /S/

Sofia

Professor D.Sc. Atanas Nachev