

**BULGARIAN DEFENCE INSTITUTE
"PROFESSOR TSVETAN LAZAROV"**

S T A T E M E N T

by Colonel Dr. Ivo Georgiev Radulov,
Associate Professor at the Defence Advanced Research Institute at the Rakovski
National Defence College
under a competition announced in issue 29/04.04.2025 of the State Gazette and
in accordance with item IV. 11 of the order No. 293/25.03.2025 of the Minister
of Defence for filling the academic position of "Associate Professor"
in the area of higher education Technical Sciences, professional field 5.3.
Communication and Computer Engineering,
scientific specialty Radio Transmission and Radio Reception Engineering, in
the Department Communication Networks and Systems of the Institute of
Defence "Prof. Tsvetan Lazarov",
with Colonel Dr. Ivan Penchev Ivanov as the only candidate

**1. General characteristic of the scientific research and scientific
applied activity of the candidate**

The scientific research activity of Col. Ivanov is in the professional field
and scientific specialty in which the competition is held. His scientific production
is in the fields of field communication and information systems, advanced
communication systems and technologies, military cellular networks and
systems, software-defined radios, sensor networks, etc. The candidate has been
involved in the development of several communication systems essential for the
Bulgarian Army, which have been accepted into service and are in operation.

According to the author's reference provided by Colonel Dr. Ivanov, the
list of his scientific production contains a monograph, 39 articles and reports, 1
book, a dissertation for PhD and an abstract. Of these, 1 monograph and 22
articles/reports are proposed for review. Five of the publications are in English,
the rest are in Bulgarian, and in ten of the submitted scientific works, the
candidate is the sole author, and in three is the first author.

The works submitted for peer review have not participated in the procedure for obtaining the degree of Doctor of Education and Science.

According to the submitted reference, Colonel Dr. Ivan Penchev Ivanov has participated in two international and one national scientific projects, as well as in numerous departmental technical and system projects related to the construction of radio communication networks and systems, automated information systems and management systems.

On the basis of the provided Report on fulfilled minimum national requirements, I can conclude that Col. Ivanov meets the minimum national requirements, according to the Law on the Development of Academic Staff in the Republic of Bulgaria (LADAB) and the Regulations for its implementation.

2. Statement on the lack of plagiarism

I am not aware of any plagiarism in the presented scientific works. A careful analysis of the publications shows the undoubted authorship of Colonel Dr. Ivan Penchev Ivanov.

With the use of the WEB-based application StrikePlagiarism.com I performed an anti-plagiarism analysis of the submitted monographic work of the candidate. The following results were obtained:

- Similarity Coefficient 1 (CS1): 3.08%;
- Similarity Coefficient 2 (CS2): 1.64%;
- Letters replacement: 113;
- Periphrases (SmartMarks): 53.
- No artificial intelligence (AI)-generated content was recognized.

From the results obtained, it is evident that there is no reason to suspect plagiarism for the presented monograph.

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

Col. Dr. Ivan Penchev Ivanov has worked for over 30 years in scientific, development and expert units in the General Staff of the Bulgarian Armed Forces (HQ Defence) and the Ministry of Defence.

In 2004 he obtained the educational and scientific degree “Doctor” in the scientific specialty 02.07.04 after defending his dissertation on the topic “Radio Transmission and Radio Reception Equipment”.

In the period 2012 - 2023 Colonel Dr. Ivan Ivanov was a national representative on the NATO Science & Technology Organisation (STO) System Concepts and Integration panel.

I know Dr. Ivan P. Ivanov since 2009 as an excellent professional and helpful colleague. The impressions I have of his work as a researcher and expert give me reason to assert that the candidate has the necessary special training in the field of military science and information and communication technologies, and my observations of his recent developments are proof that he continues to develop successful research and development activities in the interests of defence.

4. Key Scientific Results and Contributions

The scientific works of Colonel Dr. Ivan Ivanov, submitted for review can be classified in the following areas of research:

1) Architectures, models, design and prototyping of software-defined, cognitive radios and radio engineering systems [II.1.1, II.2.2, II.2.4, II.2.11, II.2.17, II.2.18, II.2.19, II.2.21, II.2.23, II.2.31].

2) Perspectives, architectures, prototypes in improving communication and information systems and technologies [II.2.1, II.2.3, [II.2.5, II.2.6, II.2.8, II.2.10, II.2.12, II.2.13, II.2.14, II.2.15].

3) Perspectives, architectures, and refinement of software-defined active and passive radar systems [II.2.9, II.2.15, II.2.16, II.2.20].

The results and contributions obtained in the above research areas I define mainly as enrichment of existing knowledge and application of scientific achievements in practice, realized effect.

5. Assessment of the significance of the contributions to science and practice

My assessment is that Dr. Ivan Penchev Ivanov has significant scientific and applied contributions to the development of solutions in the field of communication and information technologies for the needs of defense, with a focus on the design and construction of radio communication systems to support the command and control process and the exchange of information in weapon control systems. Through his work and participation in working groups and councils, the candidate has contributed to the immediate support of the processes of modernizing the communications and information environment for the BA.

6. Critical comments on the submitted works

I have no significant critical comments on the scientific works submitted for my opinion.

7. Conclusion

The materials submitted for participation in the competition meet the requirements of the Law on the Development of Academic Staff in the Republic

of Bulgaria, the Regulations for the Implementation of the Law on the Development of Academic Staff in the Republic of Bulgaria and the Regulations for the Conditions and Procedure for the Acquisition of Scientific Degrees at the Defence Institute "Professor Tsvetan Lazarov".

Through the submitted materials the candidate demonstrates excellent preparation, knowledge of scientific tools and skills for conducting in-depth research. The candidate's publications and monographic work show the topicality and significance of the problems being developed, as well as new elements in the scientific tools used. The ideas and results of the conducted research have been sufficiently promoted in publications that are refereed and indexed in world-renowned databases of scientific information, as well as in non-refereed peer-reviewed journals or in edited collective volumes.

8. Evaluation of the candidate

In conclusion, I express my opinion that the proposed scientific production represents a accomplished author's portfolio addressing topical issues in defence. This gives me the grounds to give a positive assessment of the materials submitted for the competition and to propose to the distinguished members of the Scientific Jury to vote for the award to Colonel Dr. Ivan Penchev Ivanov of the academic position of Associate Professor in the field of higher education 5. Technical Sciences, professional field 5.3. Communication and Computer Engineering, scientific specialty Radio Transmission and Receiving Engineering.



Colonel Assoc. Dr. Ivo Radulov