OPINION

by Colonel Associate Professor, Doctor of Science Petar Gospodinov Marinov
Vice-Rector for Academic and Scientific Affairs, "G. S. Rakovski" Military Academy

Field of Higher Education: 9. Security and Defense

Professional Field: 9.1. National Security

Professional Field: 9.2. Military Affairs

Scientific Specialization:

- 05.02.24. Organization and Management Outside the Sphere of Material Production (Security and Defense Management)
- 05.12.01. Organization and Management of the Armed Forces

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1. General Presentation of the Procedure and the Doctoral Candidate

By order of the Rector of Plovdiv University "Paisii Hilendarski" (PU), I was appointed as a member of the academic jury to ensure the defense procedure of the dissertation titled *"Cyberbiosecurity as an Element of the National Security System"* for the award of the educational and scientific degree "Doctor" in the field of higher education 9. Security and Defense, Professional Field 9.1. National Security, Doctoral Program – National Security.

The author of the dissertation is Kostadin Rangelov Bakov, a doctoral student in independent preparation at the Department of PNNS, Faculty of FISN, Plovdiv Uni-

versity "Paisii Hilendarski," under the supervision of Prof. Dr. Iliya Iliev and Assoc. Prof. Dr. Ivan Stanchev of the same university.

The set of materials presented by Kostadin Bakov in paper format complies with Article 36(1) of the Regulations on the Development of the Academic Staff at PU.

Kostadin Rangelov Bakov possesses long-standing professional experience in the field of security, including managerial positions in the Ministry of Interior and the Commission for Prevention of Corruption and Confiscation of Illegally Acquired Property, as well as management and commercial roles in the private sector. His education in finance and banking, combined with various international and specialized courses in cybersecurity, financial investigations, and digital technologies, provides a solid foundation for his research. The conducted studies are directly related to his professional experience and competencies, ensuring high practical relevance and scientific adequacy of the dissertation.

2. Relevance of the Topic

The examined scientific problem has been addressed in international literature, with numerous publications over the past decade emphasizing the complexity of cyberbiosecurity and the multiple aspects of risk—from the vulnerability of genomic data to the compromise of biotechnological supply chains. However, the nature of the problem is so dynamic and multilayered that each new publication and scientific study represents a valuable contribution to the accumulation of knowledge necessary for its mitigation.

In this regard, the dissertation is timely and necessary, particularly considering the lack of systematic research in the national context and the absence of an institutional framework for cyberbiosecurity in Bulgaria. This further underscores the significance of the study and its potential contribution to the development of scientific and applied knowledge in the field.

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4. Research Methodology

The employed research methodology is properly structured and justified. It includes a balanced combination of theoretical, empirical, and statistical methods, allowing an interdisciplinary approach and ensuring the reliability of the results. The object, subject, goals, and tasks are clearly defined, along with the research stages—preparatory, main, and final—ensuring logical coherence and consistency. Limitations regarding time, territorial scope, and regulatory framework contribute to greater specificity and realism. The methodology is appropriate for the problem and enables the achievement of valid and applicable results.

5. Characterization and Evaluation of the Dissertation and Its Contributions

The structure of the dissertation allows a clear distinction of the problem, objectives, and achieved results, with material presented in a scientifically credible and systematic manner. The work demonstrates high scientific preparation, analytical skills, and the ability to synthesize information.

The dissertation contains scientific and scientific-applied contributions, which can be formulated as follows:

Scientific Contribution:

The theory related to security, specifically cybersecurity, has been extended and developed through the conceptualization and formulation of an interdisciplinary model for cybersecurity, integrating physical, cyber, and biosafety in handling sensitive data.

Scientific-Applied Contributions:

1. The model combining physical security, cybersecurity, and biosafety can be applied in practice for continuous monitoring and control of institutions and companies handling sensitive data.
2. The interdisciplinary approach provides practical guidelines for processing and protecting sensitive databases, which can be integrated into organizational policies.
3. The protocol of measures offers recommendations for sustainable management of cyberbiosecurity, applicable in healthcare and corporate institutions.

In conclusion, the dissertation is scientifically substantiated, well-structured, and demonstrates contributions to both science and practice, justifying its defense before the Academic Jury.

6. Assessment of Publications and the Doctoral Candidate's Personal Contribution

The dissertation by Kostadin Rangelov Bakov comprises 221 pages and includes an Introduction, six chapters, and a Conclusion, as well as an extensive bibliography of 195 sources (35 in Cyrillic and 160 in Latin script). The structure is logically organized, with each chapter addressing specific aspects of the researched topic without repetition. The included 69 tables and 63 figures illustrate analytical presentation of data and methodological approaches, enhancing reliability and substantiation of the conclusions. The sources used are current and authoritative, reflecting a serious sci-

entific approach and analytical preparation. Access to materials in the Department of Academic Staff Development and Doctoral Studies at PU "Paisii Hilendarski" and in the Central University Library ensures transparency and the possibility of verification.

No instances of plagiarism or improper use of sources are known to me, nor have I been notified of any.

7. Abstract

The abstract is prepared in accordance with requirements and reflects the main points and achieved results of the dissertation.

8. Recommendations for Future Use of the Dissertation's Contributions and Results

The developed cyberbiosecurity model and the protocol of measures can be implemented in institutions and companies handling sensitive data as a basis for building policies, standardized procedures, and training of specialists to ensure effective protection of critical biological and digital systems.

CONCLUSION

The dissertation contains scientific, scientific-applied, and applied results that constitute an original contribution to science and meet all requirements of the Law on Development of Academic Staff in the Republic of Bulgaria (LDAS), its implementing regulations, and the relevant Regulations of PU "Paisii Hilendarski."

The dissertation demonstrates that the doctoral candidate, Kostadin Rangelov Bakov, possesses in-depth theoretical knowledge and professional skills in the scientific specialty of National Security and demonstrates qualities and abilities for independent scientific research.

For the above reasons, I confidently give my positive evaluation of the conducted research, the submitted dissertation, abstract, achieved results, and contributions, and recommend that the honorable Academic Jury award the educational and

scientific degree "Doctor" to Kostadin Rangelov Bakov in the field of higher education: 9. Security and Defense, Professional Field: 9.1. National Security, Doctoral Program: National Security.

18.08.2025

Assoc. Prof. Dr. Petar Marinov,DSc