



**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**

by **Professor, D.Sc. Veselin Tselkov**

UNIVERSITY OF LIBRARY STUDIES AND INFORMATION  
TECHNOLOGIES

on the competition for holding the academic position

**„PROFESSOR“**

**Field of higher education "Technical Sciences", professional field 5.3.**

**"Communication and Computer Technology", scientific specialty**

**"Information Technology and Cyber Security"**

Announced by the Ministry of Defence

State Gazette, issue 24 of 23.03.2021

candidate

**Associate Professor Dr. Eng. Rosen Stankov Iliev**

## **I. PAPERS SUBMITTED BY THE CANDIDATE WHICH ARE ACCEPTED FOR EVALUATION BY THE REVIEWER**

In the announced competition, Associate Professor Dr. Rosen Iliev participated with thirty-nine scientific papers proposed for review. All papers proposed for review are outside the papers submitted for the award of the scientific and educational degree of Doctor and the academic position of Associate Professor. The reviewer accepts for review all proposed monographs, publications, works and teaching aids, as corresponding to the topic of the competition. The materials proposed for review can be divided into the following groups as follows:

- Monographs - 3 (Annex 2, section II.2);
- Publications - 36 (Annex 2, section II.3), classified by the reviewer as follows:
  - Articles in scientific periodicals - 12 (two publications are in a journal with SJR);
  - Papers in collections of papers at international conferences - 23;
  - Papers in proceedings of national conferences (some of them with international participation) - 1.

### ***Research activity***

The reviewer also notes:

- Research works - 16 pieces (Appendix 2, section II.4 and section III) including software programs, information subsystems, systems, working computer prototypes, etc.);
- The participation of the candidate Assoc. Prof. Dr. Iliev in research, descriptions, assignments, programs, methodologies, etc., related to the construction of corporate information systems, data centers,

communication and information environments for collaboration, operational centers and etc. - 26 pieces;

- Research projects:
  - 5 international projects;
  - 6 national research projects (one as a supervisor and another as a deputy supervisor)
  - 15 different projects with departmental scope..

The list of all submitted works of Associate Professor Dr. Rosen Iliev includes a total of 84 titles, 39 of which are submitted for review. Papers submitted for review are published in the following languages:

- Bulgarian - 31;
- English - 8.

### ***Authorship***

The authorship of the submitted monographs for review (3 copies) is as follows:

- 1 are independent works of the candidate;
- 1 are with two authors;
- 1 - with more than two authors.

The authorship of the publications submitted for review (36 copies) is as follows:

- 10 are independent works of the candidate;
- 26 are with two authors.

For all joint publications, the reviewer did not find the relevant separation protocols attached and accepted equal, proportional participation.

## **II. GENERAL CHARACTERISTICS OF THE RESEARCH, THE SCIENTIFIC-APPLIED AND PEDAGOGICAL ACTIVITY OF THE CANDIDATE**

Associate Professor Dr. Rosen Iliev is a graduate engineer from “V. Levski” Military University, Veliko Tarnovo, specialty -“Engineering Troops” and from the Technical University, Sofia, specialty “Computer Systems and Technologies”. He holds Master's degrees from “G. S. Rakovski” Military Academy, Sofia, specialty “Communication and Information Systems” and from the Technical University, Sofia, specialty “Computer Systems and Technologies”. In 2002 he completed his doctoral study and defended his doctoral dissertation in the scientific specialty 02.21.07 "Automated systems for information processing and management" with the topic "Use of new information technologies in the management process of engineering troops". In 2012 he held the academic position of associate professor in the scientific specialty "Automated systems for information processing and control", code 02.21.07, field of higher education 5. "Technical Sciences", professional field 5.2 "Electrical Engineering, Electronics and Automation".

He has many specializations, qualifications and certificates. He was a research associate, head of section and doctoral student at the Military Research Institute of the General Staff and the Institute for Advanced Defense Studies. Holds managerial positions and manages program teams related to systematic analysis and design of functional subsystems in the field of construction and development of information and communication systems to support administrative activities and management.

The candidate's works can be referred to professional field 5.3 "Communication and Computer Technology", scientific specialty "Information Technology and Cyber Security" and classified in the following areas:

- Methods, approaches, models and research to improve information

processing in automated control systems;

- Research related to information and communication systems and technologies, data centers and cloud environments;
- Research related to integrated collaborative information environments and computer systems to support crisis management decisions;
- Hydrological modeling and support of water management;
- Automated control systems, automated information systems and application programs for the needs of defence.

### ***Scientific and teaching activity***

The scientific and teaching activity of Associate Professor Dr. Iliev includes the guidance of 5 doctoral students (one of whom has defended his dissertation, and the others are in the process of training) and participation as a member and deputy. chairman of organizing committees of scientific conferences, as well as a reviewer of scientific reports.

The scientific and teaching activity of Dr. Iliev characterizes him as an original scientist, with his own style and method of research and management of scientific teams and meets the requirements for academic nomination.

### **III. EVALUATION OF THE CANDIDATE'S SPECIAL TRAINING AND ACTIVITY**

Associate Professor Dr. Rosen Iliev is an established and respected researcher of the Defence Institute to the Ministry of Defence, with profound scientific training and diverse work experience, both in research and teaching, and in the implementation and operation of Automated management systems of the Ministry of Defence and the Bulgarian Army. He currently holds the academic position of associate professor at the Defence Institute. Extremely

creative and communicative, with impressive scientific productivity, which can be seen from the presented list of publications, projects, developments and implementations.

#### **IV. EVALUATION OF THE MAIN SCIENTIFIC RESULTS AND CONTRIBUTIONS**

The candidate's contributions can be related to the scientific specialty Information Technology in the areas shown above and can be summarized (according to the reviewer) in the areas:

- Methods, approaches, models and research to accelerate the processing of information in automated control systems;
- Information and communication systems and technologies, computer systems for decision support, integrated information environments for collaboration;
- Automated control systems, automated information systems for the needs of the Bulgarian Army.

The published results can generally be divided into scientific, scientific-applied and applied.

##### **Scientific contributions**

The scientific contributions of the candidate can be reviewed and evaluated in the following areas:

- Enrichment of existing knowledge;
- Application of scientific achievements in practice and realized economic effect.

The reviewer accepts the contributions as formulated by the candidate and notes the most important ones as follows:

- Applications of mathematical methods and approaches for automation

of information processing through computer implementation are proposed;

- Methods for evaluation of parameters of information-communication environments with the help of “fuzzy evaluations”, for search of solutions and for research of the applicability of information technologies for automation of work processes are proposed;

- An architectural approach is proposed for creating an information environment for joint work, based on the application of three types of architectural views - functional (operational), systemic and technical;

- Models based on the theory of generalized networks are proposed, with the possibility to use intuitionistic fuzzy estimates of the parameters of the used cores, which describe processes related to modeling the operation of information and communication systems;

- Models of hydrological processes, assessment of water resources and support of water management in river basins with the help of computer programs are proposed.

### **Scientific and applied contributions**

The scientific and applied contributions are in the field of information and communication systems and technologies, computer systems for decision support and integrated information environments for joint work, the most important of which are:

- Comparative analysis of modern technologies, integrating communication and information tools and a variant of their use to increase the efficiency of management is considered;

- Solutions for creating information environments for joint work in the management processes for the needs of security and defense;

- Analysis of the possibilities for building a system of data centers in

defense, of the possible directions and perspectives for the technological integration of services;

- Some aspects of risk analysis in security and defense information systems have been studied;
- Analysis of the possibilities for the technological integration of services and application of “cloud computing” for creation of an integrated information environment of the Ministry of Defence and the Bulgarian Army.

### **Applied achievements**

The applied contributions are in the field of design, development and implementation of operational and tactical tasks, complexes, subsystems and systems, in which a number of innovative approaches and solutions for automated information processing, adopted and implemented in the Bulgarian Army. The following can be noted:

- Automated information system of BA and its development;
- Project for building a prototype of a highly reliable cloud architecture of a system of data centers with an implemented platform, providing an information environment for collaboration;
- Exploring the possibilities of using different open source office suites for the needs of defense officials.

## **V. SIGNIFICANCE OF CONTRIBUTIONS TO SCIENCE AND PRACTICE**

The significance of the contributions can be assessed by their applicability in the various implemented projects (international and national) in which Associate Professor Dr. Rosen Iliev was a participant and coordinator, in the management of research teams and researchers and specialists. It is also worth



noting the research developments implemented in practice (projects, tasks, complexes and systems).

## **VI. EVALUATION OF THE AUTHOR'S PARTICIPATION IN THE RECEIPT OF CONTRIBUTIONS**

The personal contribution of the candidate in obtaining the results in the papers submitted for review is indisputable. His authorship is without doubt. Careful analysis of the total scientific output of the candidate allows us to conclude that the above scientific contributions are entirely his personal work. I did not find plagiarism and I accept that the works and contributions in it are the personal work of the candidate.

## **VII. CRITICAL NOTES AND RECOMMENDATIONS**

The reviewer does not find significant scientific errors in the presented works and publications, but allows himself to make several critical remarks and recommendations, mostly aimed at improving future research and publications:

- The author's contribution is not clearly shown everywhere:
  - The known scientific results used;
  - Separation protocols or references to authorship.
- To strengthen the activity under the guidance of researchers and doctoral students and to establish a specific own school in the subject area of scientific research.

## **VIII. PERSONAL IMPRESSIONS**

I know Dr. Rosen Iliev from our many years of joint work (until 2003) at the Military Research Institute of the General Staff and at the Institute for Advanced Defense Studies. I have been observing his scientific and career development until now. In our joint activity he shows himself as an extremely

correct, disciplined and organized leader. He has high morals and self-esteem. In scientific work he manifests himself as a strict, consistent and persistent researcher, able to define and defend ideas and scientific hypotheses. He has a broad general culture, deep and lasting scientific interests in the field of computer systems for information processing and management in defense and security. The personal impressions formed in this way give me the opportunity to evaluate the candidate as a researcher and expert-specialist in the specific scientific field.

## **IX. CONCLUSION**

I express my absolute conviction that Associate Professor Dr. Rosen Iliev is a highly erudite, educated and correct researcher and lecturer. His general assessment, as well as the specific assessment of scientific and practical results and contributions give me reason to express my positive opinion and to offer the members of the distinguished jury to vote positively for the academic position "**PROFESSOR**", field of higher education "Technical Sciences", Professional field 5.3 "Communication and Computer Technology", scientific specialty "Information Technology and Cybersecurity" of Associate Professor Dr. Rosen Stankov Iliev.

**24.06.2021 г.**

**Sofia**

**Member of the Jury:            /S/**

**/Professor, D.Sc. Veselin Tselkov/**