



## STATEMENT

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## ABOUT

**documents and scientific papers presented in a competition for the academic position  
“Associate Professor”**

Field of higher education: 5. Technical sciences;

Professional field: 5.3 Communication and Computer Engineering;

Specialty: Communication networks and systems,

published in the State Gazette No 21/15.03.2022 for the needs of the department  
„Distributed information and communication systems“

in the Institute of Information and Communication Technologies – BAS

with the only candidate in the competition: Chief Assist. Prof. Elena Paunova-Hubenova, Ph.D.

By order No 135/17.05.2022 of the Director of the Institute of Information and Communication Technologies at the Bulgarian Academy of Sciences (IICT-BAS), I am included in the Scientific Jury of the competition for the academic position “Associate Professor” published in the State Gazette No 21/15.03.2022. Materials for the competition are submitted by the only candidate Elena Paunova-Hubenova, Ph.D., Chief assist. prof. at IICT-BAS. As a member of the Scientific Jury, I have received the following materials from the candidate, meeting the requirements of IICT-BAS:

1. Application for participation in the competition;
2. European CV;
3. Copy of diploma for the educational and scientific degree “Ph.D.”;
4. Medical certificate (for candidates who are not employees of the BAS) – official notice from IICT-BAS;
5. Certificate of criminal record (for candidates who are not employees of the BAS) – official notice from IICT-BAS;
6. Certificate of internship in the specialty;
7. List of scientific publications for participation in the competition;
8. List of citations;
9. Summaries of scientific publications for participation in the competition - in Bulgarian and English;
10. Copies of scientific publications for participation in the competition;
11. Information on fulfillment of the minimum requirements of IICT;
12. Information on the original scientific and scientific-applied contributions;

13. Declaration that there is no legally proven plagiarism in scientific works.

### **General characteristics of the presented materials.**

The presented CV shows that the candidate received the educational and scientific degree "Ph.D." at the Institute of Information and Communication Technologies - BAS, in the period 2008-2013. The reference for the fulfillment of the requirements of IICT-BAS for the occupation of the academic position "Associate Professor" shows that the requirements for all groups of indicators are fulfilled and have been exceeded. The review of the submitted materials by the candidate Paunova-Hubenova, Ph.D. shows that they have been prepared following the Act for Academic Growth, the Regulations for its implementation, as well as the Rules for the specific conditions for the acquisition of academic degree and occupation of academic positions at IICT-BAS.

### **Evaluation of the scientific work.**

To participate in the competition, the candidate participates with a list of 10 scientific papers in publications that are referenced and indexed in world-renowned databases of scientific information. Beyond this number, the candidate contributes 6 refereed and indexed publications in global databases, as well as 10 in non-refereed peer-reviewed journals or in edited collective volumes.

The scientific publications corresponding to group of indicators B4 are 10 published in the period 2018-2020, and the candidate is the first author in three of them. There are 16 publications in group D. Issued in the period 2014-2021, of which 6 are in indicator G7, referenced in world-famous databases. In this indicator, the candidate is the first author in 4 of them. The publications corresponding to indicator G8 are 10, the candidate is the first author in 3 of them.

The scientific papers presented by the candidate do not repeat the publications for obtaining the doctoral degree.

In general, the works presented contain scientific and scientific-applied results related to the application of ICT in the educational process. Analyzes and application of educational games, ICT devices and their usefulness in the educational process of teachers and students. The integration of electronic educational resources and technological means in educational subjects is analyzed. A systematic step-by-step procedure for designing educational video games is developed and their application and integration in the educational process is analyzed. The application of various types of modern technologies for the implementation of precision animal husbandry is analyzed. These results show that the candidate has in-depth knowledge, high competence and accumulated experience in the field of the competition.

### **Evaluation of the citations.**

In the presented list of citations, most citations of the candidate's works are in the works of authors in publications that are indexed and referenced in the scientific information database Scopus, citations in foreign publications are also noticeable. The candidate has provided 13 citations referenced and indexed in world-renowned scientific information databases and 16 citations or reviews in non-refereed peer-reviewed journals.

In the submitted information for fulfillment of the minimum requirements of IICT for "Associate Professor" the candidate has indicated the data shown in Table 1.

Table 1. Data, provided by the candidate.

Group ind.	Indicators	Points required	Candidate Points
A	1. Dissertation thesis for educational and scientific degree "Ph.D. "	50	50
B	Indicator 3 or 4	Min. 100	165
G	Sum of indicators 5 to 11	Min. 220	240.01
D	Sum of indicators 12 to 15	Min. 60	162
E	Sum of indicators from 16 to the end	Min. 20	74
<b>Total:</b>		<b>450</b>	<b>1691.03</b>

### Scientific and scientific-applied contributions.

I accept and positively evaluate the scientific and scientific-applied contributions of the candidate indicated in the attached reference for the contributions. They fully correspond to the scientific specialty of the competition "Communication networks and systems" and include scientific and scientific-applied results related to trends in the application of ICT in the educational process, user opinions are taken into account. In the study, their actual use in practice is reported. Educational games, ICT devices and their usefulness in the educational process of teachers and students have been analyzed and applied. Attention has been paid to obstacles, benefits and shortcomings in their implementation. The integration of electronic educational resources and technological tools in educational subjects is analyzed. A systematic step-by-step procedure for the design of educational video games is developed and their application and integration in the educational process is analyzed. The benefits of STEM education and the benefits of its implementation are reported. The application of various types of modern technologies for the implementation of precision animal husbandry is analyzed, in particular the use of IoT devices and technologies for effective management. The listed scientific and scientific-applied contributions define the candidate as a highly qualified specialist in the field of communication networks and systems, incl. and in terms of their practical implementation.

### General characteristics of the candidate's activity.

The candidate for the current competition, Paunova-Hubenova Ph.D. has a master's degree from the University of Chemical Technology and Metallurgy - Sofia, speciality in "Semiconductor Materials and Technologies". She has more than 11 years of total work experience at IICT, of which 3 years as chief assistant professor. During this period, she was a doctoral student, programmer and ch. assistant. The publications submitted for participation in the competition show the candidate's active publication activity and contain original scientific and scientifically applied results in the field of communication networks and systems.

She managed 1 Youth Project. She participated as a member of the team in 3 projects from the NSF, one project financed by the National Scientific Program, a project under the Operational Program Innovations and Competitiveness and a contract with the Municipality of Sozopol, Bulgaria.

### **Critical notes and recommendations.**

I have no critical notes with which to challenge the scientific and applied contributions of the candidate. There are no separate protocols provided for the contributions in the evaluated papers, for this reason I consider the authors to have equal participation. I would recommend that in the future activity of the candidate, she should focus on publishing in foreign scientific forums.

### **Conclusion**

The materials of the competition and the presented results of the candidate satisfy all the requirements under the Act of the Development of the Academic Personnel of the Republic of Bulgaria, and the Rules of the Academic Personnel of the Republic of Bulgaria, the Rules for the conditions and the procedure for acquiring scientific degrees and for the occupation of academic position in the Bulgarian Academy of Sciences and the Rules for the specific conditions for the acquisition of the academic degrees and the occupation of academic positions in the Institute of Information and Communication Technologies. My assessment of the overall activity of the candidate is **positive**.

I strongly recommend the esteemed Scientific Jury to vote a proposal to the Scientific Council of IICT-BAS for the election of Elena Paunova-Hubenova Ph.D. to the academic position of "Associate Professor" in Professional: 5.3 Communication and Computer Engineering, specialty "Communication Networks and Systems" for the needs of Department "Distributed Information and Management Systems" at the IICT-BAS.

Date:

29.06.2022 г.

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