

REVIEW

from Prof. Daniela Ivanova Borisova, D.Sc., IICT – BAS
on the scientific works for participation in a competition for the academic position
of associate professor, in professional field 5.3. Communication and computer technology,
specialty “Communication networks and systems”,
announced in state newspaper No 21/15.03.2022, with a single candidate
Chief Assistant Dr. Elena Nikolaeva Paunova-Hubenova

According to the order of Order No 135/ May 17 2022 of the Director of IICT-BAS I have been appointed to be a member of the scientific jury under the announced procedure and according to the protocol of the first meeting of 23 of May 2022 I have been appointed to prepare a review.

1. Brief biographical data of the candidate

Chief Assistant Dr. Elena Nikolaeva Paunova-Hubenova was born on 11 of May, 1983. She graduated with a master’s degree from the University of Chemical Technology and Metallurgy – Sofia with a degree in “Semiconductor Materials and Technologies” in 2008. In 2013 she acquired the educational and scientific degree “Doctor” in “Application of the principles and methods of cybernetics in various fields of science)” in IICT at BAS. In 2019 she was elected Chief Assistant at IICT-BAS.

2. Assessment of compliance with the minimum national requirements and the requirements of IICT-BAS

According to Art. 57a of the Regulation for application of Law on the Development of Academic Staff in the Republic of Bulgaria (LDASRB) (respectively art. 24 of the Law for the development of the academic staff in the Republic of Bulgaria and in accordance with art. 2 and art. 3 of the regulations for the conditions for acquiring scientific degrees and for occupying academic positions at the Institute of Information and Communication Technologies at BAS, the members of the scientific jury evaluate the candidates for the academic position "Associate Professor" according to the conditions under Article 53 and in accordance with the results of references under Article 54, paragraph 1 of The Regulation for application of the Law on the Development of Academic Staff in the Republic of Bulgaria. The fulfillment of these conditions is shown in the following table:

Applicants for the academic position of “Associate Professor” must meet the following conditions:	Presented documents
Art. 53, para. 1 to have acquired an educational and scientific degree “Doctor”	Diploma No 299 of October 10, 2013 for educational and scientific degree “Doctor” from IICT-BAS
Art. 53, para. 2 not less than two years: a) have held the academic position of “assistant”, “chief assistant”, or	Official note for work experience from IICT-BAS
Art. 53, para. 3 to have submitted a published monographic work or equivalent publications in specialized scientific publications or evidence of relevant artistic achievements in the field of arts, which do not repeat the submitted for the acquisition of educational and scientific degree “Doctor” and for the acquisition of a scientific degree “Doctor of Sciences”.	Information on fulfillment of the minimum requirements of IICT-BAS
Art. 53, para 4. to meet the relevant minimum national requirements and the requirements of Art. 1a, para. 2	Information on fulfillment of the minimum requirements of IICT-BAS
Art. 53, para 5. not to have legally proven plagiarism in scientific works.	Declaration that there is no legally proven plagiarism in scientific works
Art. 54. para.1. The candidates shall submit a reference for fulfillment of the minimum national requirements and of the requirements under art. 1a, para. 2, as well as a reference for the original scientific contributions, to which the respective evidences are attached.	Reference for the fulfillment of the minimum national requirements and reference for the original scientific and scientific-applied contributions

From the analysis made in this way it can be seen that the candidate Chief Assistant Dr. Elena Paunova-Hubenova meets the conditions for holding the academic position of “Associate Professor”.

The implementation of the minimum points in the groups of indicators for the academic position “Associate Professor”, according to the specific requirements of IICT-BAS, is shown in the following table:

Area 5. Technical sciences, 5.3. Communication and computer equipment

Group of indicators	Contents	Associate Professor (min. points)	Presented by the candidate in the competition
A	Indicator 1	50	50
B	Indicator 2	--	
C	Indicators 3 or 4	100	165
D	Sum of indicators from 5 to 10	220	240

Group of indicators	Contents	Associate Professor (min. points)	Presented by the candidate in the competition
E	Indicator 11	60	162
F	Sum of indicators from 12 to the end	20	74

3. Research activity and results

To meet the indicators of group C, 10 publications are presented, indexed in Scopus/Web of Science, 5 of which have SJR index. A total of 16 publications are presented for the indicators from group D, 6 of which are indexed in Scopus / Web of Science, and 1 of them has SJR index. For group E – the candidate attached data for 9 publications, which were cited 29 times. For group F – the candidate has submitted information for participation in 6 national and scientific projects, in 5 as a participant and leader of 1 scientific project.

The reference from the Scopus and Web of Science databases shows the following data on the scientometric indicators for the applicant:

	Scopus	Web of Science
h-index	3	4
Author's documents	15	12
Citations	22	32

From the analysis made in this way regarding the scientometric indicators presented by the candidate, it is established that Chief Assistant Dr. Elena Paunova-Hubenova fully satisfies both the defined minimum national requirements and the specific requirements of the Institute of Information and Communication Technologies at BAS.

4. Scientific and applied scientific contributions

The main scientific thematic areas, which can be determined on the basis of the papers submitted for review, including a reference to the scientific and scientific-applied contributions, are reduced to the following areas:

- 1) educational computer games,
- 2) smart technologies in animal husbandry.

In the field of educational computer games, the candidate indicated a total of 20 publications as evidence, and in the second field, concerning smart technologies in animal husbandry, a total of 3 publications were presented.

Contributions in the field of educational computer games can be summarized as follows:

- A systematic step-by-step procedure for designing educational video games has been developed. Trends in the application of educational games, ICT devices and electronic resources in Bulgarian schools.
- Analyzes were conducted to determine the usefulness of ICT devices and trends in their use in educational games. It has been found that games provide an opportunity for students with weaker knowledge and problematic behavior to express themselves. It has been shown that the majority of teachers evaluate technology, e-learning materials and educational games as useful or extremely useful for the learning process, but very few of them use them regularly in practice.
- The integration of electronic educational resources and technological means in different groups of subjects is analyzed. It was found that teachers teaching Science, Technology, Engineering and Mathematics (Science, Technology, Engineering and Mathematics) use ICT tools more often than other teachers in Bulgarian primary and secondary schools.

The contributions of smart technologies in animal husbandry can be summarized as follows:

- The role of precision livestock farming, which can improve farmers' incomes, product quality and animal welfare, including environmental sustainability on farms using new information technologies, is demonstrated. Potential farm management software platforms that can be used to effectively organize farm processes are analyzed and compared.

5. Critical remarks and recommendations

The materials presented by the candidate Chief Assistant Dr. Elena Nikolaeva Paunova-Hubenova formally meet all scientometric indicators required by Regulation for application of LDASRB and the specific requirements of ICT-BAS. The minimum national requirements to the scientific activity of the candidate for acquisition for the academic positions "Associate Professor" in scientific field and professional field 5.3.

Communication and computer technology, specialty “Communication Networks and Systems” are fully satisfied. It is necessary to pay attention to the discrepancy between the topics of the announced competition in state newspaper No 21/15.03.2022 and the original scientific and scientific-applied contributions determined by the candidate, which do not correspond directly to the field of communication and computer technology, respectively to the communication networks and systems. In this regard, my recommendations to the candidate are related to the activation of the publishing activity in accordance with the thematic area of the professional field in which the competition was announced.

6. Conclusion

The documents submitted by the candidate meet all the requirements for holding the academic position of “Associate Professor”, according to the Law on the Development of Academic Staff in the Republic of Bulgaria, the rules for its implementation, as well as the rules for the conditions for obtaining scientific degrees and holding academic positions at the Institute of Information and Communication Technologies at BAS. **All this gives me reason to give a positive assessment and I propose to the scientific jury to vote on a proposal to the Scientific Council of the Institute of Information and Communication Technologies at BAS to elect Chief Assistant Dr. Elena Nikolaeva Paunova-Hubenova for the academic position of “Associate Professor” in the professional field 5.3. Communication and computer equipment.**

20 of June 2022

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