

OPINION

regarding a competition for the occupation of the academic position "Associate Professor" in the area "5. Technical Sciences" in the professional field "5.2 Electrical Engineering, Electronics and Automation", announced in the State Gazette №90/11.11.2022 for the needs of the Department "Intelligent Systems" with a single candidate Ch. Assistant Dr. Tatiana Radeva Radeva -Stoilova

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By order № 10 of 10.01.2023 by the Director of the Institute of Information and Communication Technologies (IICT) - BAS, I am included in the Scientific Jury for the above-mentioned competition.

As a member of the Scientific Jury I have received:

1. Curriculum vitae on a European sample.
2. A copy of the diploma for the educational and scientific degree "Doctor" and diploma for academic position "Chief Assistant" from the Electrical Engineering Faculty of the Technical University-Sofia.
3. Certificate of internship in the specialty.
4. List of the scientific publications with which the candidate participate in the competition
5. List of noticed citations in the publications for the participation in the competition for academic position "Associate Professor".
6. Monograph and two manuals as published university textbooks.
7. Summaries of the in the publications for the participation in the competition for academic position "Associate Professor" - in Bulgarian and English.
8. Copies of the scientific publications for the participation in the competition for academic position "Associate Professor".
9. Reference for the scientific research and applied activity
10. Information for fulfillment of the minimal national requirements and these ones of the Institute of Information and Communication Technologies - BAS.
11. Reference for teaching activity
12. Information on the original scientific and scientific-applied contribution of the candidate.
13. Certificates of teaching activity, designer's legal capacity, specialized training and courses, professional qualifications, diplomas, references for her work as a designer, engineer etc.
14. Declaration that there is no legally proven plagiarism in scientific works.
15. Information on CD, according to the requirements of IICT, etc.

Brief biographical data of the applicant

Ch. Assistant Tatiana Radeva Radeva-Stoilova received her Master's degree in "Electrical Engineering" and "Public Administration" in 2005 at the Technical University-Sofia. Since 2005, she has been working successively in Kremikovtzi as an electrical fitter, in El-Test OOD and Net Project OOD as a design engineer. In 2012, she worked as an engineer at Finvera Consult OOD and Transgeo OOD. As an engineer, Dr Radeva surveyed for energy efficiency and designed a number of objects. She has also prepared reports on European projects related to energy efficiency.

Since 2013, she has been an assistant at the Technical University-Sofia. In 2015, she defended her doctoral thesis at the Faculty of Electrical Engineering of the Technical University-Sofia, and since 2016 Dr Radeva has been lecturing and leading exercises at the same University. In 2016, she was awarded the scientific position of "Chief Assistant" in the professional field "5.2 Electrical engineering, electronics and automation" at the Faculty of Electrical Engineering of the Technical University-Sofia. The candidate designed on AUTOCAD, speaks English and Russian well.

Fulfillment of the requirements of the Law on the Development of the Academic Staff of the Republic of Bulgaria (LDASRB) and the Regulations for its Implementation (RI of LDASRB)

According to the submitted materials for the competition, the candidate obtained a scientific and educational degree "Doctor" This fulfils the requirement of Article 24, para. 1, item 1.

The presented certificate of work experience in the specialty shows that the candidate has 10 years of work experience, and as a chief assistant - 6 years, thus meeting the requirement of Article 24, Paragraph 1, Item 2.

In compliance with the requirements of Article 24, para. 1, item 3, from the candidate, 22 scientific works are presented for participation in the competition, which do not repeat the publications related to the acquisition of the educational and scientific degree "Doctor".

According to the presented reference for fulfillment of the minimal requirements of IICT-BAS by the candidate, it covers the minimum requirements for indicators A, B, C, D, E and F for professional direction 5.2 Electrical Engineering, Electronics and Automation. This fulfills the requirements under Article 26, Para. 2 and Para. 3, under Art. 26, paragraph 5 and on Art. 24, para. 1, item 4.

It is accepted the presented by the candidate in the competition declaration that there is no proven plagiarism in the scientific papers submitted for this competition. This fulfills the requirements of Art. 24, para. 1, item 5.

Characteristics of scientific and scientific-applied production

Total of 22 scientific publications for review are presented by Dr. Radeva:

- ✓ 1 monograph
- ✓ 2 scientific publications in editions that are indexed in Scopus;
- ✓ 19 scientific publications in journals and conferences with scientific review.

Ten of the works are independent, including the monograph, in 1 - the candidate is in first place. Dr. Radeva has also submitted two manuals as published university textbooks.

A total of 14 citations of 9 publications are presented, of which 11 citations are in publications indexed in Scopus or Web of Science, 3 citations - in publications in international editions and 2 - those in national publishing houses.

Her scientometric indicators several times exceed the minimum number of indicator points for professional field 5.2 Electrical Engineering, Electronics and Automation of IICT-BAS, which are higher than the minimum national requirements, as shown in the table below:

Group of indicators	National requirements (points)	Requirements of IICT (points)	Dr Radeva
A	50	50	50
B		-	-
C (B in bg)	100	100	100
D (Γ in bg)	200	220	301.2
E	50	60	116
F	-	20	66.6

Actuality and overview of the content and results in the presented works

The problem of energy efficiency is a current and important priority not only for Bulgaria, but also for the countries of the European Union, especially after the events of 2022. The European Commission emphasizes that improving the energy efficiency of public authority buildings, production processes, central heating and cooling, is essential to ensure that economic growth goes hand in hand with the Green Deal.

From this point of view, the research and results in the scientific works of Dr. Radeva, which can be summarized in two directions: energy efficiency and the optimization of electricity networks and energy objects, are undeniably relevant.

Energy Efficiency

The studies presented in the habilitation thesis - monograph of the candidate [1], as well as those in publications [4], [5], [9], [13], [14], [15], [16], [17], [18], [20], [21], belong to this direction.

The problem of energy efficiency was considered as achieving maximum results with minimum energy consumption or maximum utilization of energy, incl. the efficient use of other types of energy besides electricity. Energy efficiency measures are increasingly seen as a means not only to achieve sustainable energy supplies, reduce greenhouse gas emissions, increase security of supply and reduce import costs, but also to increase EU competitiveness. The latest trends in the development of energy efficiency in the EU are examined, which include optimal use of renewable energy sources depending on the annual climate, meteorological conditions during the day, etc.

The rest of the publications in this direction are related to the development of an integrated energy efficiency assessment system, including a building, systems for ensuring the microclimate, climatic effects of the environment, etc., with proposed specific energy-saving measures to increase the energy efficiency of street lighting systems. lighting of the municipality of Chelopech, as well as increasing the security and operational characteristics of the street lighting systems on its territory, solving a practical task of building a photovoltaic energy system for a public educational building, etc

Optimization of electricity networks and energy objects / plants.

Publications: [6], [7], [8], [10], [11], [12]

The publications in this direction concern the development of a mathematical model for the formation of an optimal schedule for the operation of a microgrid in the case of contracted

supplies of two types of services from and to the external network, with model solutions for the purpose of optimizing electricity networks and energy objects/plants, with the development of a numerical example for a mathematical optimization model of mixed integer linear programming.

Scientific and scientific-applied contributions

I accept the presented information from Ch. Assistant Dr Tatyana Radeva – Stoilova, in the reference for original scientific and scientific-applied contributions.

The research and contributions from her scientific production have been approved at international scientific forums and scientific journals.

I do not know the candidate personally, but the fact that almost half of the works presented are independent makes a particular impression, which proves her main contribution to the developments, as well as that she has combined her serious engineering and teaching experience with successful research activities. Her theoretical results were derived when solving practical problems that have required improvement and generalization. For this reason, her contributions are significant not only in a scientific, but in a scientific-applied aspect.

Critical notes

I recommend that in the future more her research results be published in editions refereed in Scopus and Web of Science, including those with Impact Factor or Impact Rank.

Conclusion

- The candidate fulfills all the requirements of the Law on the Development of the Academic Staff of the Republic of Bulgaria and the Regulations for its implementation, the Regulations for the Terms and Procedures for Acquiring Scientific Degrees and for Holding Academic Positions at the Institute of Information and Communication Technologies.

Ch. Assistant Dr Tatyana Radeva – Stoilova is an established researcher, and this is confirmed by the her scientific achievements and contributions, as well as her results in scientific and applied activity.

All this gives me the reason to express my positive conclusion about the selection of the candidate for the competition and to confidently recommend that the Scientific Jury unanimously vote a proposal to the Scientific Council of IICT-BAS, to choose Ch. Assistant Dr Tatyana Radeva – Stoilova for the academic position "Associate Professor" in professional filed 5.2 Electrical engineering, Electronics and Automation.

26.02.2023
Sofia

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