

OPINION

For the competition for the occupation of the academic position "professor" in the field of higher education 5. Technical sciences, professional direction 5.2.

Electronics, electrical engineering and automation, (Interactive Robotics in Education), for the needs of the "Interactive Robotics and Control Systems" section at IR-BAS. The competition is announced in SG no. 44/21.05.2024.

Member of the scientific jury: Prof. Dr. Maya Ignatova - IR-BAN

1. General conditions and biographical data

The only candidate in the competition is Assoc. Prof. Snezhanka Petrova Kostova. She completed her higher education at the Angel Kanchev University of Rousse in 1982. In the period 1982-1984, she specialized in "Applied Mathematics and Informatics" (block B and Block C) at the Faculty of Applied Mathematics and Informatics of TU Sofia. After that, she went to work at the BAS in the Institute of Control and System Research (ICSR), where she defended the scientific degree "doctor" in 2002 on the scientific specialty 02.21.01, "Theory of Automatic Control" - topic "Analysis and Synthesis of Positive Linear Discrete Systems ". During the period 1984 - 2007, she held the academic position of assistant in mathematics in the Department of "Mathematics and Statistics" at the Academy of Economics "D.A. Tsenov", Svishtov; part-time assistant in mathematics at the Institute for Foreign Students, Sofia; research assistant III, II, I degree at ICSR – BAS. From 2007 to the present, she is an associate professor at IR - BAS (former ICSR-BAS and ISIR-BAS). From 2010 to the present, she is the Head of the "Systems Engineering" Department of IR-BAS, and from 2022 to the present, dr Kostova is the Chairman of the Scientific Council of IR-BAS

2. General description of submitted documents

The candidate Assoc. Prof. PhD Snezhanka Petrova Kostova participated in the competition for the academic position of "professor" with a list of 26 publications. The publications do not repeat those presented for obtaining the educational and scientific degree "doctor" and for occupying the academic position "associate professor".

A list of 52 citations of 10 papers is presented. One of Dr. Kostova's articles from group G7 (7.4) was cited 32 times. All these citations are in publications that are referenced and indexed in world-renowned databases of scientific information.

Dr. Kostova has worked actively on 12 scientific projects, as the leader of 5 and a participant in 7 projects. Ten of them have ended and 2 are still active.

Her participation in one project of the European Framework Programs for Scientific Research and Innovation, namely the Operational Program "Science and Education for Intelligent Growth", as well as her work on 5 projects funded by the European Commission, is impressive. She was the leader in 2 of them and a participant in 3. In addition, she worked on 5 projects financed by Bulgarian scientific funds. In three of them she is the leader, and in two she is a participant. A large part of the presented scientific publications from group B (equivalent to a monographic work) are related to the implementation of some of the successfully completed and currently active scientific research projects on the subject of the competition.

Summary of the minimum national requirements by groups of indicators for the academic position "professor" by professional direction 5.2. Electronics, electrical engineering and automation, specialty "Interactive Robotics in Education" and the evidence presented by the candidate is shown in the table:

Groups of indicators	Minimal national requirements	Declared points by groups of indicators by the candidate
A	50	50
B	-	-
C	100	120
D	200	222
E	100	520
F	150	311

The analysis of the data in the table shows that in all groups of indicators Assoc. Prof. Kostova exceeds the minimum national requirements of the Low on the Development of Academic Staff in Republic of Bulgaria, the Regulation for the implementation of the low on the development of the academic staff, as well as the Regulations for the specific conditions for acquiring scientific degrees.

The submitted works for participation in the competition are in topical areas relevant to science and practice. Upon a more detailed examination of the works, it can be seen that the candidate uses contemporary methods and tools to solve scientific problems and achieve the relevant goals.

3. Scientific and scientific-applied contributions

The candidate has clearly articulated each of her contributions and has paid particular attention to a detailed description of each of them. This clarifies the nature of the contribution, both in scientific terms and the effect of its application.

Six contributions were proposed for the monographic work and 4 for the other publications. All of them are mainly in the field of research related to the possibilities and specifics of introducing new technologies in education in three directions - in mass education, in the so-called non-formal education with extracurricular activities and in education for children with special educational needs;

4. The significance of the contributions for science and practice

To participate in the competition, Dr. Kostova submitted 26 scientific publications. Four of them she is the sole author, in 8 of the publications she is the first author, in 2 - the second author, in 4 - the third author and in the rest she is after the third place in the list of authors.

A large part of the presented contributions are related to the implementation of some of the successfully completed and currently active research projects on the subject of the competition.

I believe that the contributions of the candidate are relevant and significant for the enrichment and development of scientific research in the thematic area in which she works. The significance of the contributions is determined by the fact that they are aimed at supporting the process of using robotic technologies in schools, and in particular interactive robotics, which implies the presence of interaction both between children and the robot, and a more complex configuration that includes several robots and a child. All contributions are protected by works published and repeatedly cited in publications that are referenced and indexed in world-renowned databases of scientific information. All this convincingly shows that the works of the candidate have received the necessary fame and knowledge from the scientific communities in our country and in abroad.

All contributions are protected by works published and repeatedly cited in publications that are referenced and indexed in world-renowned databases of scientific information. All this convincingly shows that the candidate's works have received the necessary fame and recognition from the scientific community at home and abroad.

5. Concluding remarks and recommendations

From the presented scientific production for participation in this competition and the candidate's impressive work on projects financed by European and Bulgarian sources, I believe that Associate Professor PhD Kostova is a highly qualified and erudite scientist with a broad general culture who enjoys a well-deserved authority

among specialists here and abroad. As a leader and participant in national and international projects, Assoc. Proff. Snezhanka Kostova has attracted serious funds to IR-BAS worth approximately 305 thousand BGN. As a respected and active member of the scientific team of the Institute, she has been the Head of the "Systems Engineering" department of IR-BAS for 14 years and is currently the chairman of the Scientific Council of IR-BAS.

I have no critical remarks with which to dispute the applicant's main scientific and scientific-applied contributions.

Conclusion

Based on my familiarity with the competition materials, the relevance and significance of the contributions achieved, as well as my positive assessment of the overall activity of the candidate, I propose to **the Scientific Council of IR BAS to elect Associate Professor PhD Snezhanka Petrova Kostova to the academic position "professor"** in professional direction 5.2 Electronics, electrical engineering and automation, specialty (Interactive Robotics in Education), for the needs of the "Interactive Robotics and Control Systems" section at IR-BAS

28.08.2024

Sofia

Member of the scientific jury: