

OPINION

in a competition for the academic position of "Associate Professor"
Field of higher education: 5. Technical sciences,
Professional field: 5.2 Electrical engineering, electronics and automation,
Specialty: Application of the principles and methods of cybernetics in various fields of
science,
announced in SG no. 45 of 28.05.2021 for the needs of the section "Cyber-physical
systems"
at the Institute of Information and Communication Technologies - BAS
with candidate Dr. Eng. Stanislav Gyoshev

Member of the scientific jury: Prof. DSc. Ivo Malakov,
cat. Automation of discrete production at the Ministry of Finance of TU-Sofia

1. General characteristics of the presented materials.

In accordance with Art. 10. (1) of the Regulations for the specific conditions for acquiring scientific degrees and for holding academic positions in IICT - BAS, the only candidate in the competition for holding the academic position "Associate Professor" Dr. Eng. Stanislav Gyoshev has submitted all necessary documents : CV on the European model; a copy of the diploma for the educational and scientific degree "Doctor"; certificate of internship in the specialty; list of scientific publications for participation in the competition; list of inventions and other scientific and applied results; list of citations; summaries of the scientific publications with which the candidate participates in the competition - in Bulgarian and English; copies of all scientific publications; reference for fulfillment of the minimum national requirements under art. 2b, para. 2 and 3 and the requirements of IICT under Art. 2b, para. 5, drawn up on the basis of documents submitted for the competition; reference for the original scientific and scientific-applied contributions; declaration of originality of the results in the scientific works.

Summary of the minimum national requirements and the requirements of IICT-BAS by groups of indicators for the academic position "Associate Professor" in field 5. Technical sciences, professional field 5.2 Electrical engineering, electronics and automation and the evidence presented by the candidate is shown in the table:

Group of indicators	Minimum national requirements	Minimum requirements of IICT	Declared points by groups of indicators by the applicant
A	50	50	50
Б	-		-
В	100	100	159,23
Г	200	220	292,24
Д	50	60	171
Е	-	20	224

The analysis of the data in the table shows that the requirements of ADAPRB, PPZRAS, as well as of the Regulations for the specific conditions for acquiring scientific degrees and for holding academic positions in ICT-BAS have been overfulfilled in all groups of indicators.

2. Evaluation of scientific papers.

Dr. Eng. Stanislav Gyoshev participates in the competition with 36 scientific publications, in addition to those used in other procedures, of which 8 are independent. All scientific papers are peer-reviewed. Some of them are in publications of well-known international organizations - IEEE (International Conference on Emerging eLearning Technologies and Applications), IFAC Papers-OnLine, and others. Ten of the publications are indexed and referenced in the Scopus scientific information database.

The publications presented for participation in the competition are in current fields of science and practice - research of high-speed impact processes and briquetting of metal waste; recording of high temperature processes; methods and means for improving the quality of life of people with visual impairments - research, modeling and simulations; methods and means for creating materials with improved physico-chemical properties research and development of materials containing micro and nano elements with increased hardness, wear resistance, hydrophobicity, etc. To solve some problems in these areas, the candidate uses modern methods and tools. The achieved results show that Dr. Gyoshev has a good professional qualification, in-depth knowledge and experience in the fields in which he works.

3. Evaluation of citations.

According to the presented report, four of the publications with the participation of Dr. Gyoshev have been cited 28 times, and a significant part of them are in the works of foreign authors in prestigious publications. Most of them (14) are indexed and referenced in the Scopus scientific information database. All this shows convincingly that the works of the candidate are known to the scientific community at home and abroad.

4. Main scientific and applied contributions

I accept and evaluate positively the scientific and scientific-applied contributions of the candidate, indicated in the attached reference for the contributions. They correspond to the professional field and scientific specialty of the announced competition "Application of the principles and methods of cybernetics in various fields of science" and include the development of algorithms for 3D printing of tactile Braille paintings from two-dimensional sources and three-dimensional figures from two-dimensional sources; an algorithm for high-speed briquetting of metal scrap of various materials; of a model for experimental research of high-impact processes, using a rocket engine and an innovative technology for research of wear of thin surface coatings. There are other unreported applied contributions in the presented works.

I believe that the scientific and applied contributions contained in the works of the candidate are relevant and important for the development and enrichment of research in

the thematic areas in which he works. The presented works are also important for the practice with the necessary degree of applicability. Contributions can be attributed to the groups proving with new means of significant new aspects of already existing scientific fields, problems, theories, hypotheses; creating new classifications, methods, constructions, technologies and obtaining confirmatory facts.

5. General characteristics of the candidate's activity

The candidate has a total work experience of 6 years and 8 months, of which as a chief assistant 4 years and 2 months as of 24.06.2021, when the certificate was issued by IICT-BAS for participation in the competition. Eng. Gyoshev has worked on 3 national and 1 international project, funded by various organizations. All works are from the scientific specialty of the announced competition. It should be emphasized that the scientific and applied activity of the candidate is aimed at solving real problems of the industry. The applicant is in the team of 2 inventions and one utility model, as well as in an application for an invention, which shows active inventive activity.

I consider that in terms of volume and quality the research and applied research activity of the candidate satisfies the requirements of the Law on the Protection of the Rights of Persons with Disabilities and the Regulations for its application. The quantitative indicators of IICT-BAS for holding the academic position "Associate Professor" are covered.

6. Critical remarks and recommendations

I do not have any significant critical remarks with which to challenge the main scientific and applied contributions of the candidate.

Critical remarks can be made regarding some omissions and unresolved errors in the submitted materials for participation in the competition, the most significant of which are:

- There is no official reference on the results of the candidate's participation in research projects. No distribution protocol has been applied for the contribution of individual authors in the collective publications.

- Despite the fact that some developments are a development of already published works, it is allowed to repeat texts, figures and tables in a number of works.

- The declared contributions are not formulated in the generally accepted and approved way. They need to be refined and edited. The candidate presented them as object-oriented results.

- A technical error was made in the reference for fulfillment of the minimum requirements of IICT when summing up the points according to indicator E. In addition, points for citation are not taken into account in dissertations, ie. the points according to indicator E become $171-6 = 165$ points, which does not lead to a change in the fulfillment of the requirements under this indicator.

I recommend the candidate to intensify the publishing of books and educational literature, as well as the implementation in practice of the results of his research activities.

CONCLUSION

Based on my acquaintance with the materials of the competition, the topicality and significance of the achieved scientific and applied contributions, and my positive assessment of its overall activity, I find it reasonable to propose to the esteemed Scientific Jury to vote a proposal to the Scientific Council of IKT-BAS for selection. of Dr. Eng. Stanislav Gyoshev for the academic position "Associate Professor" in the professional field 5.2 Electrical Engineering, Electronics and Automation, specialty "Application of the principles and methods of cybernetics in various fields of science" for the needs of the section "Cyber-physical systems" in IKT-BAS.

Date: 14.09.2021
Sofia

