

# OPINION

*Of Assoc. Prof. Ph.D. Rossitza Ivanova Goleva, New Bulgarian University, Department of Informatics, Professional Field 4.6 Informatics and Computer Science on the scientific works for participation in a competition for the academic position of Associate Professor, in Professional Field 4.6. Informatics and Computer Science, announced in State Gazette 26/21.03.2023, with the only candidate Assistant Professor Ph.D. Stoyan Raykov Mishev*

According to the order of Order 3-PK-193/ 28.04.2023 of the Rector of NBU, I have been appointed to be a member of the scientific jury under the announced procedure and according to the minutes of the first meeting on 5.06.2023 I have been appointed to prepare an opinion.

## **1. Assessment of Compliance with the Minimum National Requirements and the Requirements of the New Bulgarian University**

The members of the scientific jury evaluate candidates for the academic position of "Associate Professor" according to the fulfillment of the conditions under Art. 57a of the Regulations for Application of ZRAS in the Republic of Bulgaria (respectively Article 24 of the Law on the Development of Academic Staff in the Republic of Bulgaria and Article 56 of the Ordinance on the Development of Academic Staff of NBU). The fulfillment of these conditions is shown in the following table:

<b>Applicants for the academic position of "Associate Professor" must meet the following conditions:</b>	<b>Presented documents:</b>
Art. 56, para. 2, p.1 to have acquired an educational and scientific degree "Doctor"	Dr. Mishev presents a Diploma for Ph.D. series ДКН No 157029/ 26.12.2011 of the Joint Institute for Nuclear Research, Dubna, Russia, certificate No Y 2018-4/ 05.10.2018 from Sofia State University St. Kliment Ohridski for the recognition of Ph.D. in physics and theoretical nuclear physics with tutor Prof. V. Voronov on the topic "Correlations in Structure of the Low-Lying States in Even Spherical and Transitional Nuclei".
Art. 56, para. 2, p.2 not less than two years: a) to have held the academic position of "Assistant Professor", or "Chief Assistant Professor", or b) to have been a lecturer, including part-time, or member of a research team in the same or another higher school or scientific organization, or c) have practiced artistic activity, or d) have been specialists in practice and have proven achievements in their field.	The applicant applies with his CV and list of courses taught at NBU that demonstrate enough capacity for his activities.
Art. 56, para. 2, p.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 the acquisition of scientific degree Doctor of Science".	The applicant presents three publications indexed in Scopus and Web of Science. The coefficient of correction 3 is applied that is stated for the Professional Field 4.6. Informatics and Computer Science. The total score of the applicant in this criteria is 135 points. The results published in the three publications do not repeat the work on the Ph.D. thesis. The topic of the works is related to the variational approach for approximating the ground state of the systems with a low number of even

	nuclei. A coupled-clusters model is implemented for nuclear matter calculations. It is a part of the simple model for the equation with the states of the nuclear matter.
Art. 56, para 2, p.4 to meet the relevant minimum national requirements and the requirements of NBU as stated in Appendix 2.	Dr. Mishev presented 8 publications indexed in Scopus and Web of Science. After implementation of the corrective coefficient 3 as stated in the Scientific Field 4.6. Informatics and Computer Science the overall score in the criteria is 357 points.
Art. 56, para 2, p.5. not to have legally proven plagiarism in scientific works.	All presented evidence applies to this procedure and conforms to the minimal requirements. There are no pieces of evidence for plagiarism related to this procedure.

The implementation of the minimum points in the groups of indicators for the academic position "Associate Professor", according to the specific requirements of the NBU, is as follows:

*Area 4. Natural Sciences, Mathematics, and Informatics, Professional Field 4.6. Informatics and Computer Science*

Group of indicators	Content	Associate Professor (min. Points)	Presented by the candidate in the competition
A	Indicator 1	<b>50</b>	<b>50</b>
B	Indicator 2	<b>0</b>	
C	Indicators 3 or 4	<b>100</b>	<b>135</b>
D	A sum of indicators from 5 to 9	<b>200</b>	<b>357</b>
E	A sum of indicators from 10 to 12	<b>50</b>	<b>264</b>
F	A sum of indicators from 13 to 20	<b>0</b>	
G	A sum of indicators from 21 to the end (required by NBU)	<b>50</b>	<b>80</b>
H		<b>70</b>	<b>110</b>
I		<b>50</b>	<b>55</b>

## 2. Research Activity and Results

To meet the indicators of group C, the Applicant presents three publications that formed a total score of 135 points and conforms to the requirements of the law and ordinance as listed in the table above. One of the publications is indexed in Web of Science (Q1). Two of the publications are indexed in Scopus with SJR.

Eight publications are submitted to fulfill the requirements in Group D. All of them are indexed in Scopus and one in Web of Science. The total score is 357 points. Two of the publications are indexed in Web of Science (Q1), one has Q3, two have Q4, and three are indexed in Scopus with SJR.

For group E the candidate has attached data for 33 citations from a total of over 55 in Scopus and 51 in Web of Science. All 33 citations are formed from 8 publications of Dr. Mishev. All citations conform to the minimal requirements. For scores in the groups F, G, H, and I the candidate has submitted information that is far above the minimally required. Dr. Mishev has had a significant impact on the education of programming, big data analyses, and quantum computers in the Department of Informatics. The applied CV contains a list of publications that demonstrate his work in the field of machine learning and neural network implementation in the field of nuclear physics. During the last decade, the applicant demonstrated a significant impact on the topic of his publications which is recognized internationally.

The report from the databases in Scopus and Web of Science shows the following scientometric indicators for the candidate:

- Scopus, h-index 5, 16 publications, 55 citations
- Web of Science, h- index 4, 17 publications, 51 citations

From the analysis made in this way it is concluded that for some of the groups of indicators, the candidate has significantly exceeded the defined minimum national requirements and the requirements of the New Bulgarian University.

### **3. Teaching and Learning Activities**

From the presented reports it can be seen that the teaching activity of Assistant Professor Dr. Stoyan Mishev includes auditorial and training courses on programming, quantum computers, big data analyses, knowledge retrieval from the data, and machine learning implementation in big data analyses. The applicant has very high evaluations from students and the faculty for his work. Dr. Mishev has published educational documents in Moodle with enough quantity and quality. Part of the educational documents is on quantum computers.

Dr. Mishev has many diploma thesis students. He is an active member of the diploma thesis defense procedures and state exams.

His work in education is fully relevant to the position of Associate Professor in the Professional Field 4.6. Informatics and Computer Science.

### **4. Administrative and Public Activities**

Assistant Professor Ph.D. Stoyan Mishev is a member of the Society of Mathematicians, Society of Physicists, and Society of Automation and Information Professionals in Bulgaria. He is a member of the Programme Council of the Department of Informatics where he is responsible for the development of the content of the big data master programs. In parallel, Dr. Mishev is also participating in the development of all other eight programmes in the Department of Informatics.

### **5. Critical Remarks and Recommendations**

I have no critical remarks about the candidate Assistant Professor Dr. Stoyan Mishev. My recommendations are related to expanding the topic of publications, according to current thematic areas in the field of computer science.

### **6. Conclusion**

Taking into account the fulfillment of all normative requirements, according to law for the development of the academic staff in the Republic of Bulgaria, the regulations for its application, as well as the Ordinance for the development of the academic staff of NBU, incl. the reports on the fulfillment of the minimum national requirements, the scientometric indicators from Scopus and Web of Science, and the additional indicators related to the teaching activity, it was established that the candidate fully satisfies the requirements for holding the academic position in the announced competition. **All this gives me enough reason to give a positive assessment and I propose to the scientific jury to vote on a proposal to the Academic Council of the New Bulgarian University - Sofia to choose Assistant Professor Dr. Stoyan Raykov Mishev for the academic position of "Associate Professor" in the Professional Field 4.6 "Informatics and Computer Science".**

Date 27 July 2023

Signature: 