

STATEMENT REPORT

**on the competition for academic position “Associate Professor”
in the area of higher education 1. Pedagogical Sciences;
professional field 1.3. Pedagogy of teaching in...,
for the needs of the Bulgarian Academy of Sciences,
Institute of Mathematics and Informatics,
announced in State Gazette No. /15.11.2024 and on the IMI-BAN website**

The report is prepared by Professor Kiril Gueorguiev Bankov, Ph.D. IMI-BAN with acquired right to retirement for less than 5 years ago, professional field 1.3. Pedagogy of teaching in...(mathematics), in my capacity as a member of the scientific jury for the competition according to Order No. 4 / 14.01.2025 of the Director of IMI-BAN.

Only one candidate submitted documents for participation in the announced competition: Chief Assistant Professor Georgi Stamov Gachev, Ph.D., IMI-BAN.

I. GENERAL DESCRIPTION OF THE PRESENTED MATERIALS

1. Data on the candidature

The documents submitted by the candidate in the competition correspond to the requirements of the Law on the Development of the Academic Staff in The Republic of Bulgaria, Regulations for Implementation of the Law on the Development of the Academic Staff in The Republic of Bulgaria, Regulations for the terms and conditions for acquiring scientific degrees and occupying academic positions at Bulgarian Academy of Sciences and Regulations for the terms and conditions for acquiring scientific degrees and occupying academic positions at the Institute of Mathematics and Informatics.

For the participation in the competition, the candidate Chief Assistant Georgi Stamov Gachev has presented a list of 23 publications in total, including 22 publications in Bulgarian or foreign scientific editions or scientific forums and 1 monograph. As a member of the scientific jury, I have received all the documents listed in the application to the Director of IMI-BAN of the only candidate in the contest Chief Assistant Professor Georgi Stamov Gachev, Ph.D.

2. Data for the candidate

Georgi Gachev has a master degree in technical sciences received from the Saint Petersburg University. He has an additional qualification “Teacher on informatics” obtained from Plovdiv University. In 2009, he defended a doctoral dissertation at the Faculty of Mathematics and Informatics, Sofia University and obtained Ph.D. of scientific specialization 01.01.12 Informatics. Georgi Gachev worked in several computer centers, 8 years at the Faculty of Mathematics and

Informatics, Sofia University, and for the last 12 years he has been Assistant Professor and Chief Assistant Professor at IMI-BAN.

3. General characteristics of the scientific works and achievements of the candidate

To fulfill the indicators from group C of the minimum national requirements the candidate submitted a monograph entitled “Balancing chemical equations using the graph method” published in 2025.

The candidate is the only author in 7 of the presented publications from group D. He is a co-author in the remaining 15 publications. Since there is no declaration presented by the co-authors, I consider the contribution of all authors to be equal. Of all publications, 10 are in Bulgarian and 12 are in English.

Of the presented articles, 14 are in non-refereed peer-reviewed journals and 8 are in refereed and indexed in world-renowned databases. With these publications, the candidate has a total of 240,9 points in group D against the 200 required points of the minimum national requirements and 220 points of minimum requirements of IMI-BAN.

The number of citations of the candidate's publications is 20. Thus, the candidate earns 145 points in the group F indicators out of the required 50 required points of the minimum national requirements and 70 points of minimum requirements of IMI-BAN.

To meet the indicators from group E, the candidate has presented participation in 7 national and 5 international projects, as well as leadership of one project. This gives him 255 points, with 20 points required from the minimum requirements of IMI-BAS.

The candidate is a co-author of one textbook and one school aid for secondary school.

I think that the scientific works meet the minimum national requirements (according to Art. 2b, paras. 2 and 3 of the Law on the Development of the Academic Staff in The Republic of Bulgaria) and, accordingly, the additional requirements of IMI-BAN for occupying the academic position of “associate professor” in the scientific field and professional direction of the competition.

4. Content analysis of the applicant's scientific and applied scientific achievements contained in the materials for participation in the competition

The main scientific areas and problems on which the publications are presented are:

- creating or improving e-learning infrastructure¹ (2, 3, 6, 23);
- creating educational visual materials to support e-learning or its assessment (4, 5);
- educational materials supporting learning in STEM classrooms (11, 15, 16, 20, 22);
- using materials from the “VIVA Mathematics with Computer” competition for educational activities in classroom or in extracurricular work (12, 14);

¹ The numbers in brackets are from the list of publications for participation in the competition.

- application of graphs to balance chemical equations (1, 8, 9, 21);
- using cluster analysis to compare “genetic closeness“ between some nations (10, 13);
- other (7, 17, 18, 19).

There are scientific papers that demonstrate the author's competence to work in each of these areas.

Based on the scientific and applied scientific contributions in the works submitted to the competition, it can be argued that the candidate develops new digital products and teaching methods, enriches existing ones, and discovers interesting applications of existing methods or materials in an educational environment.

The presented list of 20 citations (excluding auto-citations) of materials from the competition shows that the candidate's results are cited in works mainly by Bulgarian authors.

There is no evidence that the scientific works presented by the candidate duplicate those from previous procedures for acquiring a scientific degree or academic position.

There is no proven plagiarism in the scientific papers submitted for the competition.

5. Candidate's teaching activity and participation in projects

I do not find any data on the candidate's teaching activities in the submitted documents.

The candidate's participation in contracts and projects is sufficient to cover group E of the requirements of IMI-BAS.

6. Critical notes and recommendations

The publications presented for the competition, as well as the other documents, are prepared and arranged accurately and precisely. I have no significant critical comments on the submitted materials for participation in the competition. I recommend that the candidate attract more young people around him to work on the topics he deals with.

7. Personal impressions of the candidate

I have known Georgi Gachev for about 10 years. My impressions of his work are that he fulfills his commitments on time and precisely and brings his own vision to solving the problems he tackles. Georgi Gachev's professional qualifications correspond to the topic of the announced competition.

8. Conclusion on the candidacy

After having familiarized myself with the materials and scientific works presented in the competition and based on the analysis of their significance and the scientific and scientific-applied contributions contained in them, **I confirm** that the scientific achievements meet the requirements of the Law on the Development of the Academic Staff in The Republic of Bulgaria, the Regulations for its application and the relevant Regulations of BAN and IMI-BAN for the candidate to occupy the academic position of “associate professor” in the scientific field and professional direction of the

competition. In particular, the candidate satisfies the minimum national requirements in the professional field and no plagiarism has been found in the scientific works submitted for the competition.

I give my **positive** assessment to the application.

II. GENERAL CONCLUSION

Based on the above, I **recommend** the scientific jury to propose to the competent authority for the selection of the IMI-BAN to elect Chief Assistant Professor Georgi Stamov Gachev, Ph.D., to hold the academic position of “associate professor” in professional field 1.3. Pedagogy of learning in...(mathematics).

18 February 2025

The report is prepared by: prof. Kiril Bankov, Ph.D.