

OPINION

by Professor Dr. Vladimir Monov,
Institute of Information and Communication Technologies,
Bulgarian Academy of Sciences

ABOUT

**documents and scientific papers submitted in a competition for the academic position of
"associate professor"**

Field of higher education: 4. Natural sciences, mathematics and informatics,

Professional field: 4.6 Informatics and computer sciences,

Specialty: Informatics,

announced in the State Gazette No. 40 of 16.05.2025 for the needs of the "Intelligent Systems" section
at the Institute of Information and Communication Technologies-BAS with a single candidate

Assit. Prof. Dr. Valentina Todorova Terzieva-Bogoycheva.

By order No. 151 of 14.07.2025 of the Director of ICT-BAS, I am included in the scientific jury for the announced competition for the academic position of "associate professor". By decision of the scientific jury at a meeting held on 17.07.2025, my participation in the work of the jury was determined with the preparation of an opinion on the submitted materials. Documents for participation in the competition were submitted by the only candidate, Dr. Valentina Todorova Terzieva-Bogoycheva, Assistant Professor in the "Intelligent Systems" Department of ICT. As a member of the Scientific Jury, I have received the following materials of the candidate:

1. Curriculum vitae in European format;
2. Copy of diploma for the educational and scientific degree "doctor";
3. Certificate of work experience;;
4. List of scientific publications for participation in the competition;
5. List of citations;
6. Summaries of scientific publications for participation in the competition in Bulgarian and English.
7. Copies of scientific publications for participation in the competition;
8. Reference for fulfillment of the minimum requirements of ICT-BAS;
9. Reference for fulfillment of the minimum requirements for NACID.
10. Reference for original scientific and applied scientific contributions;
11. Declaration that there is no plagiarism proven in the works in accordance with the legally established procedure;
12. Certificate of participation in projects.

General characteristics of the submitted materials

According to the submitted materials, Assit. Prof. Dr. Valentina Terzieva-Bogoycheva has acquired the educational and scientific degree "Doctor" in Informatics, as evidenced by diploma No.

001581 dated 31.10.2023, issued by the Bulgarian Academy of Sciences for a defended dissertation on the topic "Technological approaches for personalized learning using educational computer games". From 2023 to the present, she has successively held the positions of "engineer", "assistant" and "senior assistant" at IICT-BAS, where she has a total work experience of 34 years and 7 months. The attached references for fulfilling the minimum national requirements and the requirements of IICT-BAS for holding the academic position of "associate professor" show that the requirements for all groups of indicators A, B, Г, Д and E have been met and exceeded. The requirements for indicator D (with a minimum required number of 70 points, 600 points were achieved) and indicator E (with a minimum required number of 20 points, 150 points were achieved) were particularly significantly exceeded. A signed declaration is attached that there is no plagiarism in the scientific works.

All materials presented by Dr. Terzieva-Bogoycheva have been prepared in accordance with the Law on Development of the Academic Staff of Republic of Bulgaria and the Regulations for its implementation as well as the Regulations on the Specific Conditions for the Acquisition of Scientific Degrees and for Holding Academic Positions at the Institute of ICT-BAS.

Evaluation of scientific works

For participation in the competition under indicator B4 "Habilitation work", 9 publications were submitted, indexed and referenced in the databases of scientific information WoS and/or Scopus. Five of them are in issues with SJR rank of Scopus. The publications are co-authored, and in 6 of them the candidate is the first author. Under indicator Г7 "Scientific publications in editions that are referenced and indexed in world-known databases of scientific information", 23 publications were submitted, which are referenced and indexed in WoS and/or Scopus and 1 chapter of a book. Eleven of them are in publications with SJR rank of Scopus. In 15 of the publications the candidate is the first author, one of the publications is self-authored. All publications are in English in prestigious international or national editions with international participation. In essence, the works of the candidate are of a scientific and scientifically applied nature, in the field of informatics and relate to the development and application of modern technologies in the area of education, supporting the education of students with specific learning difficulties, educational games and the construction of intelligent learning environments. The results obtained are reflected in the publications made and the reports presented by the author at scientific forums, and have received high assessment and recognition from the scientific community in our country and internationally.

The scientific works submitted for the competition undoubtedly show that the candidate Assist. Prof. Dr. Valentina Terzieva-Bogoycheva possesses in-depth knowledge, accumulated experience and significant achievements in her research activities.

Evaluation of citations

The presented lists of citations contain data on 266 citations of 52 author's works in WoS and Scopus and 141 citations of 47 author's works in other international publications. The noted citations are in works by our and foreign authors for the period 2009-2025. The cited publications are in reports of international conferences, publications by Springer, Elsevier, ACM, etc. The presented data on the noted citations show that the candidate's scientific results have aroused wide interest and have been used in the works of both our and foreign scientists in the field of informatics and computer technologies.

Scientific and applied scientific contributions

I accept and positively evaluate the contributions indicated in the attached reference of the candidate. They can be defined as scientific and applied scientific and relate to the following areas of research.

- *Information and communication technologies in the field of education.* As a result of anonymous survey research and comparative analysis of the results, an assessment of the current state was obtained and leading trends in the application of ICT and electronic learning resources in school education in Bulgaria were identified.

- *Supporting the education of students with dyslexia.* A computer-based environment, a multi-agent platform and an intelligent system for the education of students with specific learning difficulties are proposed, which allows for a personalized and adaptive learning process that meets the requirements of inclusive education.

- *Educational games.* An approach to the implementation of educational computer games in school education is studied, and a user model and a framework for personalizing educational games for providing personalized education according to the learner's profile are developed.

- *Intelligent learning environments.* New technologies for intelligent learning have been studied and their impact on improving the learning process has been assessed. A model of the intelligent classroom with a modular structure has been developed, the architecture of a conceptual model of an intelligent educational system has been designed with built-in tools for collecting and processing large volumes of data related to the learning process

The attached reference for contributions has been prepared in detail, with the specific author's contributions outlined in each of the indicated areas. All of them are reflected in the published scientific works and can be assessed as significant and internationally recognized achievements in the candidate's work.

General characteristics of the candidate's activities

The candidate's works demonstrate active scientific and research activity and contain original scientific and scientifically applied results in the field of informatics and the application of computer technologies in the field of education. The competition documentation presents data on the active

participation of Dr. Terzieva-Bogoycheva in 3 international and 9 national scientific and educational projects, participation as an invited lecturer in the National Conference on e-Education: "Digital Innovations in Support of e-Education", as well as a consultant in a national study to assess the impact of learning in an electronic environment on the effectiveness of school education. She is also currently participating in the implementation of 3 projects funded by the Fund of Scientific Research. As a whole, the candidate's scientific research and publication activities, as well as participation in the research and educational projects testify to the acquired high professional qualifications and research experience.

Notes and Recommendations

I have no substantive comments on the materials submitted for the competition. Given the results achieved so far, my recommendation to the candidate is to continue scientific and research activities, the training of young scientists and doctoral students, the preparation and publication of independent publications in prestigious national and international journals.

CONCLUSION

The materials of the competition and the results of the candidate presented therein satisfy the requirements of the Law on Development of the Academic Staff of Republic of Bulgaria, the Regulations for its implementation, as well as the Regulations on the specific conditions for acquiring scientific degrees and occupying academic positions in IICT. My assessment of the overall activity of the candidate is positive.

I strongly recommend that the esteemed Scientific Jury vote on a proposal to the Scientific Council of the Institute of ICT-BAS for the election of Assistant Professor Dr. Valentina Todorova Terzieva-Bogoycheva to the academic position of "Associate Professor" in professional field 4.6 "Informatics and Computer Sciences", specialty "Informatics" for the needs of the "Intelligent Systems" Department at the Institute of ICT-BAS.

Sofia,

06.08.2025

