REVIEW REPORT / OPINION
for a competition for the academic position
"Associate Professor"

in the field of higher education:	4. Natural Sciences, Mathematics, and Informatics
professional field:	4.6. Informatics and Computer Science
scientific speciality:	Informatics (Adaptive Educational Software Systems)
published in:	State Gazette № 63 / 10.07.2026 and on the IMI website
for the needs of:	Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences (IMI-BAS)
prepared by:	Assoc. Prof. Valentina Terzieva-Bogoycheva, PhD
member of the scientific jury of the competition, according to:	Order № 88 / 08.09.2026 of the Director of IMI-BAS

Only one candidate has submitted documents for participation in the announced competition:

Dessislava Dakova Vassileva, PhD

I. General Description of the Submitted Materials

This opinion is based on the documents the candidate submitted for participation in the competition, which comply with Art. 9, Para. 1 of the Regulations on the Conditions and Procedure for Acquiring Scientific Degrees and Occupying Academic Positions (RCPASDOAP) at IMI–BAS, as well as the regulatory acts and rules of the Bulgarian Academy of Sciences (BAS). The Scientific Jury admitted the candidate to the evaluation process during its first meeting on September 30, 2026. As a member of the Scientific Jury, I have received the following documents: Application for admission to the competition for the academic position of "Associate Professor"; Professional curriculum vitae (CV) in the European format; Copy of the higher education diploma conferring the educational and qualification degree of "Master"; Copy of the diploma for PhD degree; Official certificates verifying professional experience in the relevant field; Complete list of publications, inventions, and other scientific-applied results; List of scientific publications and inventions submitted for the competition; Copies of the scientific publications submitted for the competition; abstracts of the scientific publications submitted for the competition (in Bulgarian and English); Summary of original scientific contributions; Complete list of citations; List of citations for participation in the competition; Statement (in the prescribed format) regarding the fulfillment of the minimum requirements for the academic position of "Associate Professor" at IMI–BAS; and a declaration (in the prescribed format – Appendix 3.2). Declaration of consent for the storage and processing of personal data (Annex 4.2); Copy of the announcement in the State Gazette.

1. Application Details

Dessislava Dakova Vassileva holds a PhD degree, with a dissertation titled "Adaptive Software Systems for E-Learning," defended in 2011 at the Faculty of Mathematics and Informatics of Sofia University "St. Kliment Ohridski." She began her career at Institute of Mathematics and Informatics – Bulgarian Academy of Sciences as a programmer and worked there from April 2001 to June 2010. She has also served as a Research Associate (III-degree) at the Research and Development Sector (NIS) and as an R2-level researcher on a project at Sofia University "St. Kliment Ohridski." Furthermore, she has extensive professional experience as a Senior Software Engineer at various companies in Bulgaria and Spain. The candidate's CV demonstrates international professional experience that combines academic and applied work, as well as participation in numerous national and international projects, where she conducted research in the fields of adaptive e-learning and game-based learning. Dessislava Vasileva is an established author in global scientific databases, with an H-index of 5 in Web of Science and an H-index of 7 in Scopus. Her research interests and acquired professional experience in developing e-learning systems and environments provide a strong foundation for further advancing scientific results and designing educational software systems, making her exceptionally well-suited to the subject matter of the current competition.

Dessislava Dakova Vassileva meets the requirements of Art. Article 24, paragraph 1, item 1 of the Law on the development of the academic staff in the Republic of Bulgaria (LDASRB), as she has submitted diploma № SU 2011-57/22.12.2011, awarding the educational and scientific degree of "Doctor" in professional field 4.6. Informatics and Computer Sciences (Informatics) from Sofia University "St. Kliment Ohridski".

Dessislava Dakova Vassileva meets the requirements of the LDASRB (Art. 24, Para. 1, Item 2) for holding the academic position of "Associate Professor". She has submitted two official certificates confirming that, during the period from October 1, 2008, to September 30, 2011, she worked as a Research Associate (III-degree) at the Research and Development Sector of Sofia University "St. Kliment Ohridski." Furthermore, from 2020 to 2021, for a period of 14 months, she worked as an R2 Researcher (NCPD code 24225089) on the project "BG05M2OP001-1.001-0001 – Establishment and Development of a Centre of Excellence: "HERITAGE BG)" at Sofia University "St. Kliment Ohridski." These certificates attest to a total of 4 years and 2 months of professional experience in positions equivalent to "Assistant" or "Chief Assistant," or as a member of a research team. Consequently, the requirement for at least two years of service in such positions has been met twice over.

In the document titled "Complete list of publications, inventions, and other scientific-applied results," Dessislava Dakova Vassileva lists a total of 59 publications; of these, 8 were submitted for the acquisition of the educational and scientific degree of "Doctor of Philosophy" (PhD), and 22 have been submitted for participation in the current competition. She explicitly indicates which of her publications were used for the acquisition of the educational and scientific degree of PhD; these are not included among the publications submitted for the competition for the academic position of "Associate Professor."

The "List of scientific works, inventions, and other scientific-applied results," submitted for the competition for the academic position of "Associate Professor," includes ***22 publications and 2 utility models***. All the publications are in English and can be summarized as follows:

1. According to indexing in global scientific databases:

- 2 publications are articles in journals with an Impact Factor (IF) indexed in Web of Science (WoS) (№ 12 [B1] and № 19 [B2], in the Q1 and Q2 quartiles, respectively);
- 12 publications are in JCR-indexed journals/publications included in Scopus, of which:
  - 2 are in the Q3 quartile (№ 9 [B3] and № 21 [G18]),
  - 4 are in the Q4 quartile (№ 16 [G14], № 17 [G15], № 20 [G17], and № 22 [G14]),
  - 6 are without a quartile ranking (№ 3 [G3], № 4 [G4], № 5 [G5], № 8 [G8], № 14 [G12], and № 18 [G16]);
- 8 publications are in outlets indexed in Scopus, Web of Science (WoS), ACM, or MathSciNet (№ 1 [G1], № 2 [G2], № 6 [G6], № 7 [G7], № 10 [G9], № 11 [G10], № 13 [G11], and № 15 [G13]);

2. According to publication type:
   - 4 publications are journal articles,
   - 18 publications are papers in international conference proceedings;
3. According to authorship:
   - 3 publications are single-authored (№ 6 [G6], № 7 [G7], and № 15 [G13]),
   - 19 publications are co-authored.

This summary demonstrates that the candidate has teamwork skills and collaborates with scholars on various scientific research projects. The results of this research have been published in numerous scientific papers (including co-authored works) in reputable journals and international conference proceedings.

The submitted "General list of citations" covers 24 publications from the 2006–2025 period, which have received 73 citations; of these, 48 appear in refereed and indexed publications (Web of Science/ Scopus), while the remaining 25 appear in peer-reviewed publications. The report on fulfillment of the minimum requirements set by IMI–BAS presents ***25 citations, all found in sources indexed by Web of Science/ Scopus, of 9 scientific works*** from the list submitted for the competition, all of which were published between 2009 and 2025.

The attached "Standardized report on the fulfillment of minimum requirements for IMI–BAS" confirms that the candidate meets and exceeds these requirements, with the following point totals across the various groups of indicators: Group A – 50 points; Group B – 130 points; Group C – 346 points; Group D – 150 points; Group E – 170 points. For groups of indicators B and C, the candidate's scores significantly exceed the minimums required by Regulations on the conditions and procedure for acquiring scientific degrees and occupying academic positions in IMI–BAS, while for groups D and E, the scores are more than double and more than eight times the minimum thresholds established by IMI–BAS, respectively. Dessislava Dakova Vassileva meets the minimum national requirements under Art. 2b, paragraphs 2 and 3, as well as the requirements under Art. 2b, paragraph 5 of the Law on the development of the academic staff in the Republic of Bulgaria – as applied by the Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences – for holding the academic position of "Associate Professor" in professional field 4.6.

2. Content Analysis of the Applicant's Scientific and Scientific-Applied Achievements Contained in the Materials for Participation in the Competition

In the document "Report on original scientific contributions in the works submitted for the competition," Dr. Dessislava Dakova Vassileva has identified three main thematic areas and two utility models, within which her scientific and applied scientific contributions fall:

A. Adaptive Educational Systems and E-learning – a total of 8 publications in the following sub-areas:

- A.1. Management of Adaptive Workflows – 4 publications: № 1 [G1], № 2 [G2], and № 3 [G3];
- A.2. Semantic Structuring of Learning Content and Game-Based Learning in an Adaptive Environment – 1 publication: № 4 [G4];
- A.3. Adaptive Assessment and Empirical Evaluation of the Effectiveness of Adaptive Learning – 2 publications: № 5 [G5] and № 6 [G6];
- A.4. Models and Architectures of Adaptive Software Platforms – 2 publications: № 7 [G7] and № 14 [G12].

B. Adaptation Based on the Player's Emotional State and Behavior in Educational Video Games – a total of 4 publications in the following sub-areas:

- B.1. Adaptation Based on Emotional State – 2 publications: № 8 [G8] and № 9 [V3];
- B.2. Recognition of Behavioral Patterns and Dynamic Adaptation – 2 publications: № 10 [G9] and № 11 [G10].

C. Game-Based Learning and Serious Educational Games – a total of 10 publications in the following sub-areas:

- C.1. Game styles based on experiential learning theory – 2 publications: № 12 [B1] and № 13 [G11];
- C.2. Analysis and visualization of game data – 2 publications: № 16 [G14] and № 17 [G15];
- C.3. Serious games for cultural heritage and climate resilience – 2 publications: № 18 [G16] and № 19 [B2];
- C.4. New applications and trends in the field of educational video games – 4 publications: № 15 [G13], № 20 [G17], № 21 [G18], and № 22 [B4].

D. Tools for measuring the user's emotional state – 2 utility models: № 3234 U1 (2019) and № 4406 U1 (2022).

All the presented scientific publications are directly thematically related to the scientific field of "Informatics" and, more specifically, pertain to the subject matter of the competition in the area of adaptive educational software systems. They have been published in peer-reviewed and indexed scientific journals or reputable scientific conferences, with a significant portion cited in international publications. For each of publications that are grouped into the three main thematic areas that form the focus of Dr. Dessislava Dakova Vasileva's research, she clearly highlights the original contributions; although she does not explicitly classify them as "scientific" or "scientific-applied," this does not diminish their value.

3. Evaluation of Projects Work and Other Activities

Dr. Dessislava Dakova Vassileva has participated in 7 national scientific or educational projects, funded both by the Bulgarian National Science Fund (SUGrid, APOGEE, and APTITUDE) and by other organizations and operational programs (ADOPTA, "HERITAGE-BG," etc.). Furthermore, 5 international scientific or educational projects (TenCompetence, SISTER, LUDUS, RAGE, and E-Creha), all carried out between 2005 and 2023, in which the candidate served as a researcher, are also listed. Her involvement in such a large number of projects testifies to her scientific competence and excellent teamwork skills. Having personally participated in some of these projects, I can attest firsthand to D. Vasileva's high personal qualities, competence, and dedication to scientific research. Much of the scientific publications presented is linked to her active participation in these successful research projects.

4. Recommendations

Dessislava Vassileva, PhD has published numerous scientific papers relevant to the competition's subject, reflecting the broad spectrum of her research interests in adaptive educational software systems. These works cover methodologies, architectures, mechanisms, and models with interdisciplinary applications and could be synthesized and further developed into a monograph.

5. Application Conclusion

It is evident from the submitted documents that the candidate, **Desislava Dakova Vasileva, PhD, meets** all requirements, conditions, and criteria stipulated by the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation, the Regulations on the conditions and procedures for the acquisition of scientific degrees and the holding of academic positions at the Bulgarian Academy of Sciences, and the Regulations on the specific conditions for the acquisition of scientific degrees and the holding of academic positions at the Institute of Mathematics and Informatics – BAS.

II. General Conclusion

After getting acquainted with the materials and scientific works presented in the competition, analyzing their significance and the scientific, scientific-applied, and applied contributions contained in them, I find it reasonable to give my positive assessment and recommend that the Scientific Jury propose to the Scientific Council of the Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences **to elect Dessislava Dakova Vassileva, PhD** to take the academic position "Associate Professor" in the field of higher education 4. Natural Sciences, Mathematics, and Informatics, professional field 4.6. Informatics and Computer Science, scientific specialty "Informatics" (Adaptive Educational Software Systems).

Sofia Sign: ……

03.11.2026 (Assoc. Prof. Valentina Terzieva-Bogoycheva)