

OPINION
on a competition for an 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 (Systems, methods and means of presentation and management of digital cultural and educational resources)
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for the needs of:	Telematics Laboratory, Bulgarian Academy of Sciences (LT-BAS)

The report was prepared by: **Galina Bogdanova, Professor at** the Institute of Mathematics and Informatics at BAS (IMI-BAS) as a member of the scientific jury on the academic position competition procedure, according to Order No 110/17.05.2022 of the Director of IMI-BAN. Only one candidate has submitted documents in the academic position competition procedure: Chief Assistant PhD Dr. **Lily Radoslavova Pavlova**.

I. General Description of the Submitted Materials

1. Application Information

Dr. Lily Pavlova has submitted all necessary 19 documents for the competition (with numbers 1-19), including the following: application form for admission to the academic position competition, professional CV according to a European model, diploma of higher education – Master's degree, diploma of acquired educational and scientific degree "Doctor", general list of publications, list of publications adequate for participation in the competition, reference to the original contributions in the scientific work for participation in the competition, summaries of the publications for participation in the competition in Bulgarian and in English, copies of the works, a general list of citations, a list of citations for participation in the competition, a state gazette paper with the notice of the competition, a certificate of internship in the specialty issued by LT-BAS, a reference to other activities, a reference according to a template for fulfilment of the minimum national requirements under Art. 2b, paragraph 2 and 3 and the requirements of Art. 2b, paragraph 5 of the Law on the development of the academic staff in the Republic of Bulgaria (ZRASRB in Bulgarian/ LDASRB in latin), as well as the minimum requirements of IMI-BAS (Annex 2.2), medical certificate, criminal record and 2 declarations.

A total of 27 scientific publications (in scientific journals, proceedings, collections, and scientific papers published in international conferences and in books) are presented for the competition. Ten of these publications have an impact factor (IF) and/or impact rank (IR), 15 publications are indexed in Web of Science (WoS), Scopus, ACM Digital Library (ACM) and 2 are chapters of collective monographs.

The scientific works of the candidate are on the subject of the competition and meet the minimum national requirements under Art. 2b, paragraph 2 and 3, respectively, the requirements under Art. 2b, paragraph 5 of the ZRASRB. The scientific works are published mostly in the last

years, which is an indication that they have not been used by the applicant for the acquisition of the educational and scientific degree "Doctor".

2. Applicant Information

Chief Assistant PhD Dr. Lily Pavlova has over 10 years of professional experience as a senior assistant at LT-BAS. She worked as chief assistant at New Bulgarian University, Sofia (NBU) and as an invited teaching professor at lectures of National Academy of Arts (NAA). She received her master's degree at the NAA (diploma No 231, 07.04.1999). She received her PhD degree in 2013 at the IMI-BAS (diploma N000359, 26.11.2013).

3. General Characteristics of the Applicant's Scientific Work

The candidate has presented 27 publications on the theme of the competition: (25 articles and 2 chapters of collective monographs) in the field of digital cultural content management and modern information technologies in training.

The quantitative indicators of the criteria for holding the academic position "Associate Professor" – in general under the ZRASRB and in particular under the Rules of procedure for acquiring scientific degrees and for holding academic positions at the Institute of Mathematics and Informatics – BAS (Rules of IMI-BAS), Art.2, Table 1, Scientific Field 4. Natural sciences, mathematics and informatics, namely:

- **Indicator B (meaning V in Bulgarian):** 6 publications with IF and/or IR with a total number of **points 124** (subject to a requirement of 100).
- **Indicator G:** 21 publications with a total **number of points 290** (subject to a requirement of 220), 4 of which have IF and/or IR, 15 are indexed in WoS, Scopus and ACM and 2 are chapters of books.
- **Indicator D:** 17 citations of 6 points with a total number of **points 102** c (at required 70).
- **total points 50 in Indicator E** (20 required), participation in 3 national scientific or educational projects and 1 international scientific or educational project.

The criterion under Art. 3, paragraph 1, item 2 of Rules of IMI-BAS is also valid, namely "the applicant must have at least 5 publications in scientific editions with IF or SJR". Dr. Lily Pavlova has presented 10 publications in editions with IF or SJR for participation in the competition.

4. Projects, Pedagogical and Other Activities

It is clear from the reports provided, as well as from the scientific CV of the Applicant that she has reported her achievements about the competition in a number of international and national scientific forums and participated in a significant number of international scientific projects funded by the The Bulgarian National Science Fund, the Ministry of Education and Science, the EU OP, etc. In the educational and pedagogical field activity the candidate has presented lectures in NBU and NAA.

5. Meaningful Analysis of the Applicant's Scientific and Applied Scientific Achievements Included in the Competition Materials

27 scientific publications published in English at international scientific conferences (20), in scientific journals (5) or in books have been selected for participation in the competition. Of these, 10 are in editions with IF and/or IR, 15 are indexed in WoS and/or Scopus, and 2 are in collective monographs. All publications are co-authored.

The scientific publications presented for the competition are on the theme of the competition and mainly concern the problems of: (A) Systems for the management of digital cultural content and applications and (B) Advanced information technologies in training. Research and results obtained in strand (A) are related to the creation of A1) methods and means of creating, presenting

and using content in digital libraries and digital cultural ecosystems and (publ. 4, 6, 10, 16, 19, 22, 23); A2) methods and means of analysis and retrieval of knowledge from data (1, 3); (A3) digital reconstruction of cultural and historical assets (publ. 13, 14, 15, 17, 18). Research and results obtained in Strand B relate to the development and applications of serious educational games, digital theater and the storytelling method in training (2, 5, 7, 8, 9, 11, 12, 20, 21, 24, 25, 26, 27).

I accept that these original scientific, applied scientific and applied contributions to the applicant's work are correctly reflected in document 7. More significant results and contributions are: A1) developed approaches to improving the user experience, algorithm for preventing duplication of records for digital objects, transfers of technological solutions, methodologies, integration of libraries, architecture models and models related to digital cultural resources into digital cultural ecosystems; A2) developed ontology of the learning method "analysis; a model for monitoring and managing transport processes related to Big data; (A3) methods and created digital reconstructions of cultural and historical assets, reliability analyses; B1) developed approaches, methods and models for training and learning scenarios, overviews, portals.

The publications offered for the competition have 17 citations in WoS and Scopus. The total number of all publications was 70, of which 40 were referenced a total of 148 times. References to the author's scientific achievements are known and significant. The scientific publications in the competition are also related to the realization of several research projects and national programs, which also makes Dr. Lily Pavlova a recognizable scientist.

6. Critical Notes, Recommendations and Conclusion On The Application

I have no critical notes and recommendations to the peer-reviewed documents of a candidate. I have a question for the author to comment on the slight discrepancy in the number of projects mentioned and for the competition: 6 in document 15, 4 in document 7 of Indicator E and the numerous list of projects in the scientific CV (I consider the information in subgroups E14 and E15 of document 7 to be correct, stating that 4 projects are adequate for the academic post competition, contributing with 50 points).

Plagiarism has not been established in the scientific papers presented in the competition.

After reviewing and analyzing the materials and scientific papers presented in the competition and their scientific importance and the scientific and applied contributions contained, I find that the scientific achievements of Chief Assistant Dr. Lily Pavlova meets the requirements of the ZRASRB, the Application Rules of ZRASRB, the Rules of procedure for acquiring scientific degrees and for holding academic positions at BAS and Rules of IMI-BAS for academic position "Associate Professor ". I give my **positive** assessment of the candidacy.

II. General Conclusion

After reviewing and analyzing the submitted documents, I confirm that the scientific achievements of the candidate cover (even exceed) the legal requirements for the appointment of the academic position "Associate Professor " and I give **my positive assessment**. I recommend to the Scientific jury to offer to the Scientific Council of IMI-BAS to choose Chief Assistant Dr. Lily Pavlova for taking the academic position of "Associate Professor " in the field of higher education 4. Natural Sciences, Mathematics and Informatics, Professional Direction 4.6. Informatics and Computer Science, Scientific specialty "Informatics" (Systems, methods and approaches for presentation and management of digital cultural and educational resources).

Date: 14.07.2022

Author of the opinion:

(Prof. Dr. Galina Bogdanova)