

REVIEW
in a competition for the academic position “professor”

in the field of higher education: 4. Natural sciences, mathematics and informatics, professional field: 4.6. Informatics and Computer Science, specialty: Informatics (Systems for management of digital cultural content and e-learning), published in the State Gazette, issue no. 102 / 01.12.2020

The review was prepared by: Prof. DSc. Ivan Ganchev Garvanov, Professor at the University of Library Studies and Information Technologies, as a member of the scientific jury of the competition, according to Order № 12 / 29.01.2021 of the Director of IMI.

Only a candidate has submitted documents for participation in the announced competition: **Assoc. Prof. Dr. Desislava Paneva-Marinova, IMI-BAS**

I. General description of the submitted materials

1. Details of the application

To participate in the competition, **Assoc. Prof. Dr. Desislava Paneva-Marinova** has submitted a total of one collective monograph, five publications in scientific journals, thirteen publications in proceedings and papers at international conferences and one chapter of a book.

The attached scientific papers are not used to obtain the educational and scientific degree “Doctor” and to hold the academic position “Associate Professor” and are in the subject of the competition.

Nineteen of the publications are indexed in Web of Science and / or Scopus and thirteen of them are impact factor and / or impact rank.

18 other documents are also presented as follows: Professional CV; Diplomas for completed bachelor’s degree from Plovdiv University “Paisii Hilendarski” and master’s degree from Veliko Tarnovo University “St. St. Cyril and Methodius”, Diploma for acquired educational and scientific degree “Doctor” with number 32881 / 29.01.2009 issued by the Higher Attestation Commission in the scientific specialty 01.01.12 “Informatics”; List of the candidate’s publications with a total number of 133, of which 15 are with impact factor and / or impact rank, 61 are indexed in Web of Science and / or Scopus; List of 20 publications for participation in the competition for

a professor; Information about the original scientific contributions in the works for participation in the competition in Bulgarian and English; Summaries of publications for participation in the competition in Bulgarian and English; Copies of the works for participation in the competition; List of citations of the candidate with a total number of 371 of which 162 are citation sources indexed in Web of Science and / or Scopus; List of citations for participation in the competition for professor are 31 citations of 17 publications from those attached to the competition; State Gazette with the announcement of the competition; Certificate for internship in the specialty according to the requirements of Art. 29 para 1 item 2 of the Law on the Development of the Academic Staff in the Republic of Bulgaria, issued by IMI-BAS; Certificate for academic position “Associate Professor”, issued by IMI-BAS with number 526 / 09.01.2014; References for research activity, scientific-applied activity, educational activity, scientific-organizational activity, expert activity. From these reports it is evident that the candidate takes an active part both in IMI-BAS and in other organizations. Actively participates in national and international projects. She is the supervisor of 7 doctoral students, one of whom he has successfully defended, 5 have been expelled with the right to defense and one is in the process of training. Information on a sample for fulfillment of the minimum national requirements under Art. 2b, para 2 and 3, and of the requirements under art. 2b, para. 5 of the Law on the Development of the Academic Staff in the Republic of Bulgaria, as well as the minimum requirements of IMI-BAS, which shows that the candidate meets them and by groups of indicators has the points as follows: Group A - 50; Group B - 104; Group D - 250; Group D - 186; Group E - 205.

2. Details of the candidate

Assoc. Prof. Dr. Desislava Paneva-Marinova defended her dissertation on “Semantically-oriented architecture and models for personalized and adaptive access to knowledge in a multimedia digital library” before the Specialized Scientific Council for Informatics and Mathematical Modeling at the Higher Attestation Commission on October 27, 2008 from 2009 to 2013 she was a senior assistant at IMI-BAS as well as a teacher of Informatics, IT and Computer Graphics at 119 SOU “Academician Mihail Arnaudov”. Since 2013 he has been an Associate professor at IMI-BAS in the field of computer science. The research interests and professional experience of the candidate are focused on digital libraries, systems and environments for e-learning, management of digital cultural content, which fully complies with the announced competition for professor – Systems for management of digital cultural content and e-learning.

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

As noted in item 1 of this review, the candidate fulfills the quantitative indicators of the criteria for holding the academic position “professor” according to ZRASRB and in particular under the Regulations on the terms and conditions for obtaining scientific degrees and for holding academic positions at the Institute in Mathematics and Informatics at BAS.

The candidate works actively in the following scientific fields: Digital cultural content management systems and e-learning technologies and tools. Most of the scientific publications are in these scientific fields. The total number of which is 133, of which with impact factor and / or impact rank are 15, and indexed in Web of Science and / or Scopus are 61. Out of all publications, 88 are cited 371 times. According to Scopus, the h-index is 6, and according to the Web of Science the h-index is 4.

In the competition for professor, the candidate participated with 20 scientific papers divided into: one collective monograph, five publications in scientific journals, thirteen publications in proceedings and papers at international conferences and one chapter of a book. Nineteen of the publications are indexed in Web of Science and / or Scopus, thirteen of them are with impact factor and / or impact rank, which exceeds the requirement of IMI-BAS for at least 10 publications in publications with IF or SJR. In 9 articles she is the first author, and in 8 she is the second author, which is an indicator of her leading place in conducting research.

No plagiarism was found in the scientific papers submitted by the candidate.

4. Characteristics and evaluation of teaching activity, work on projects and other activities

The attached documents for the competition show that Assoc. Prof. Desislava Paneva-Marinova is extremely active and takes an active part in the implementation of research projects, writing scientific publications, teaching, participation in expert councils, juries and others.

She has participated in 34 international scientific forums, presented papers at 6 foreign universities and institutions, participated in 12 national forums, participated in the implementation of 3 projects with foreign funding, 8 projects with external funding for BAS and others.

The results of the implementation of scientific research applied in practice make a very good impression, as 2 pieces have been created as online educational products.

She is a leading designer and developer of environments for digital cultural content management – 5 pcs. She was an editor and guest editor of collections of scientific papers.

Assoc. Prof. Desislava Paneva-Marinova is a research supervisor of one successfully defended doctoral student, five expelled with the right to defense and one in the process of training. She has participated in 29 examination commissions, lectured and taught at three universities in the country.

She is the head of the section “Mathematical Linguistics” at IMI-BAS since 2016 - until now, as well as the head of the Laboratory for Digitization - Burgas at the section “Mathematical Linguistics” since 2019 - until now. He is the leader of a scientific seminar “Digital Culture”, organized by the section “Mathematical Linguistics” from 2017 - until now.

5. Scientific and scientific-applied achievements of the candidate, contained in the materials for participation in the competition

The candidate’s contributions thematically fall into the following scientific areas:

- Digital cultural content management systems - technologies and tools.

Articles 9, 12, 19, 20 examine the architecture and functionalities of digital libraries (methods and tools for creating, using, semantic description of content in digital libraries; architecture and functionalities of digital libraries; approaches to personalized use of resources and services) and the creation, presentation and management of content in digital libraries. Articles 3, 4, 5, 10, 16 examine the principles of presentation, extraction and processing of knowledge (methods and tools for analysis, synthesis, processing and intelligent curation of large data sets; extraction of knowledge from data). Articles 2, 3, 6, 13, 14, 15 examine the methods and means for integration of digital cultural content management systems; building digital cultural ecosystems (methods and tools for interoperability at the content level; models of ecosystems with digital cultural assets).

I would classify the contributions in this direction as scientifically applied with the application of scientific achievements in practice. The obtained scientific results enrich the existing knowledge and reveal new challenges for the development and application of digital content management systems.

- E-learning - technologies and tools

Articles 1, 7, 8, 11, 17, 18 explore various applications of ICT in education (development and application of serious educational games), digital theater and the method of “storytelling”) in teaching; models and tools for teaching mathematics

through the creative integration of pedagogical methods, arts and innovative technological platforms).

The contributions in the field of e-learning are of a scientifically applied nature and are extremely relevant, especially in the last year in the current pandemic situation.

The scientific publications presented at the competition were received during the implementation of ten research projects and national research programs. They are related to the implementation of systems for management of digital cultural content and digital educational products implemented in Bulgaria, such as: “Virtual Encyclopedia of Bulgarian Iconography”, “Encyclopedia Slavika Sanctorum”, “Virtual Collection of Icons”, “Thracians”.

A logical continuation of the candidate's research is the monographic work [20] which presents innovative tools for reaching cultural assets, applications and services for their improved, sustainable and creative use / reuse, intelligent arrangement, discovery, selection, grouping and management. The main contribution of the monograph I would point out the developed algorithm for complex search of information objects in a digital library. A significant applied contribution is the developed software solution of a digital library, allowing fast transfer and implementation for new areas and different types of objects.

6. Critical remarks and recommendations

I would like to recommend Assoc. Prof. Desislava Paneva-Marinova to be the research supervisor of several doctoral students in order to give her rich scientific and teaching experience to the next generation of Bulgarian lecturers and researchers.

7. Personal impressions of the candidate

I do not know the candidate for this competition Assoc. Prof. Desislava Paneva-Marinova, but I am very impressed by her research activities. I believe that she is a built scientist with enviable knowledge and skills and that she must continue to work in the future with this enthusiasm.

8. Conclusion on the application

After getting acquainted with the materials and scientific works presented in the competition and on the basis of 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 procedure for acquiring scientific degrees and for holding academic positions at the Bulgarian Academy of Sciences and the Regulations for the conditions and the procedure for acquiring scientific degrees and for holding academic positions at the Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences.

Assoc. Prof. Desislava Paneva-Marinova satisfies the minimum national requirements in the professional field and no plagiarism has been established in the scientific papers submitted at the competition.

I give my positive assessment of the candidacy.

II. Overall conclusion

After getting acquainted with the materials and scientific papers presented in the competition, analysis of their significance and the scientific, scientific-applied and applied contributions contained in them, I find it reasonable to give my positive assessment and recommend the Scientific Jury to propose to the Scientific Council of IMI-BAS to elect Assoc. Prof. Dr. Desislava Paneva-Marinova to take the academic position “professor” in the field of higher education 4. Natural sciences, mathematics and informatics, professional field 4.6. Informatics and computer sciences, scientific specialty Informatics (Modern technologies for preservation, accessibility and protection of scientific and cultural heritage).

Reviewer:

15.03.2021

(Prof. DSc. Ivan Garvanov)