

REVIEW

by Prof. Dr. Boyan Paskalev Bontchev,
Faculty of Mathematics and Informatics, Sofia University "St. Kliment Ohridski ”
in a competition for the academic position of "Professor"
at the Plovdiv University "Paisii Hilendarski",
Faculty of Mathematics and Informatics,
in the field of higher education: 1. Pedagogical sciences, professional field 1.3. Pedagogy of training in...
(Methodology of training in informatics and information technologies),
announced in State Gazette no. 99 / 20.11.2020

By order of the Rector of Plovdiv University "Paisii Hilendarski" No.R33-637 from date 19.02.2021 I have been appointed a member of the Scientific Jury for conducting a competition for the academic position "Professor" *in the field of higher education 1. Pedagogical sciences, professional field 1.3. Pedagogy of training in... (Methodology of training in informatics and information technologies)*, announced in State Gazette, issue 99 from 20.11.2020. Documents for participation in the competition were submitted by one candidate - Assoc. Prof. Dr. Todorka Zhivkova Terzieva from the Department of Software Technologies at the Faculty of Mathematics and Informatics (FMI) at the Plovdiv University "Paisii Hilendarski". As a member of the scientific jury of the competition, I present herewith my review of this application.

1. General description of the submitted materials

As a member of the jury I received the following documents:

1. Application for participation in the competition;
2. Autobiography;
3. Copy of the diploma for higher education from VMEI-Sofia №019170 from 06.03.1990;
4. Copy of the diploma for educational and scientific degree "Doctor" №1000033 / 23.05.2012;
5. Certificate for occupied academic position "Associate Professor" №3000068 / 20.10.2015;
6. Complete list of the candidate's scientific works (111 in total);
7. List of scientific papers for participation in the competition (44 copies);
8. Information on compliance with the minimum national requirements and the additional requirements of FMI-PU for holding the academic position "Professor";
9. Declaration of originality and authenticity of the attached documents;
10. Annotation of the scientific works, incl. and self-assessment of contributions;
11. Author's reference of the scientific contributions in the works for participation in the competition;
12. Documents for the academic work of the candidate, incl. published textbooks and teaching aids and reference for work with students and graduates;
13. Documents for the research of the candidate;
14. Copy of the certificate for the work experience of the candidate;
15. List of noticed citations of the candidate's publications (110 issues);
16. Copies of the works of the candidate for participation in the competition (44 copies);
17. Evidence of compliance with the minimum national requirements for holding the academic position of "Professor" (with the number of points on indicators).

The works with which the candidate participates in the competition are 44 in number and present 41 scientific publications, 1 monograph, 1 book and 1 textbook. Of the presented scientific publications, 20 are in journals (12 abroad) and another 8 are in proceedings of international conferences. The works submitted for participation in the competition have not been submitted for the acquisition of the educational and scientific degree "Doctor" and for the academic positions "Chief Assistant" and "Associate Professor".

2. General characteristics of the research and teaching activity of the candidate

T. Terzieva is the author or co-author of 93 scientific publications in journals and conference proceedings, three monographs and books, as well as 16 textbooks and teaching aids. 25 of these scientific publications are in issues having SJR. 44 of the publications were included in this competition, seven of which were in journals with a total SJR of 0.971. The candidate participates in the competition with two monographs - "Didactic tools for learning in an electronic environment" and "Development of algorithmic thinking in computer science education", published in 2021, as well as a textbook - "Introduction to web programming". The monographs and the textbook were published without co-authors this year.

The candidate has experience from participation in 16 national and university projects, as well as in 4 international scientific and educational projects. 6 of the projects with her participation are national. She has been the leader of two research projects - one national and one university. He is a member of the Management Board of the National Scientific Program (NNP) Information and Communication Technologies in Science, Education and Security (ICTES), funded by the Ministry of Education and Science (2018-2021).

T. Terzieva has a very rich teaching activity. He has been working as an assistant at the Department of Computer Informatics at FMI-PU since 2001. Her annual classroom employment has always been above the norm. She has taught exercises in a number of disciplines, such as Fundamentals of Computer Informatics, Programming (C ++), Programming (Delphi), Programming (C #), Data Structures and Programming, Object Oriented Programming, Algorithms and Data Structures, and Computer Architectures, Workshop on Informatics 1 and 2, and Creating a graphical user interface (C #). In the bachelor's programs of FMI Assoc. Prof. Dr. Terzieva has presented lectures on Creating a graphical user interface (C #); Introduction to Web Programming and Web Design, Programming and Introduction to Web Programming. Within the master's programs at FMI she has lectured on Didactic Technologies, Introduction to School Programming Training and Graphical User Interface Applications in the specialty "Training in Informatics and Information Technologies at School". She has published 16 e-learning aids, 13 of which are published online. There are two successfully defended doctoral students, over 20 successfully defended graduates, as well as active extracurricular activities.

The candidate has been a member of program and organizing committees at several scientific conferences. She is a member of SMB. Since 2015 until present she is the head of the Department of Software Technologies at the FMI of PU.

3. Analysis of the scientific and scientific-applied achievements of the candidate

The scientific and scientific-applied activity of the candidate is concentrated mainly in four thematic directions:

1. Design, development and implementation of modern educational tools for learning in an electronic environment;
2. Technological and didactic aspects of game-based learning;
3. Methodological aspects of adaptive e-learning;

4. Pedagogical strategies for increasing the motivation in the training in informatics and information technologies and for developing the creative abilities of the students through an interdisciplinary approach in the training

The works presented at the competition present research results in all four areas, with the strongest representation of those concerning technological and didactic aspects of game-based learning, as well as technological models and methods for implementing adaptive e-learning.

Candidate's contribution to collective publications

All the 41 scientific publications have been developed in co-authorship with Bulgarian scientists, and the candidate is the first author in 15 of them. The candidate participates in the competition with two monographs, as well as as the sole author of the textbook "Introduction to Web Programming". In this sense, I have no doubt in the significant personal contribution of the candidate to obtaining the above results.

Reflection of the candidate's results in the works of other authors

The candidate submitted a report on observed citations of his works, which includes data on 110 citations, 30 of which are in a journal with an impact factor or SJR. The list does not contain self-citations and citations of co-authors.

4. Fulfillment of the national and additional requirements for FMI-PU for holding the academic position "Professor"

The reports submitted for the competition prove that the minimum national requirements for holding the academic position of "Professor" have been exceeded quantitatively by near *three and a half times* (by 1754 points with a required minimum of 550). At the same time, the additional requirements of FMI-PU for holding the academic position of "Professor" have been significantly exceeded, as the number of citations exceeds the minimum number of *5.5 times*.

5. Critical remarks and recommendations to the candidate

The documents submitted for the competition are designed very systematically and carefully. I have no critical remarks on them. I recommend the candidate to publish more independent articles in specialized scientific journals.

6. Personal impressions of the candidate

I have excellent personal impressions of the candidate from the defense of her dissertation in 2012, as well as her reports at scientific conferences and personal conversations. I highly appreciate her high professionalism both at the scientific and academic level, as well as the shown consistency and persistence in her striving to achieve high professional results.

7. Conclusions

The documents for the competition for Professor, presented by Assoc. Prof. Dr. Todorka Terzieva, meet the requirements of the Law for the Development of Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for implementation of ZRASRB and the relevant Regulations of PU Hilendarski "and the FMI of PU. The scientific papers presented at the competition are on the topic of the competition and make an excellent impression with the level of scientific content. The teaching work of the candidate is on the topic of the competition, is significant in volume and is at the required high professional level.

According to the above, I give a **positive opinion on the selection of Assoc. Prof. Dr. Todorka Zhivkova Terzieva** in a competition for a Professor at FMI at PU "P. Hilendarski " in the professional field 1.3. Pedagogy of teaching in Mero (Methodology of teaching in informatics and information technology) and I propose to the esteemed jury to propose to the Faculty Council of FMI at PU the same **to be elected** to the academic position of "Professor".

02/04/2021

Prepared the review:

(Prof. Dr. Boyan Bontchev)