

OPINION

by **Ivan Kolev Koychev**, professor at FMI at Sofia University „St. Kliment Ohridski“,
for the competition for the academic position **Associate Professor**, for the needs of the
Faculty of Mathematics and Informatics of Plovdiv University "Paisii Hilendarski",
in the professional field **4.6 Informatics and Computer Science**, specialty **Informatics**,
announced in **SG No. 57 of 26.06.2020**.

This opinion was prepared in my capacity as a member of the scientific jury on the above competition according to order P33-4709 / 25.09.2020 of the Rector of Plovdiv University (PA) "Paisii Hilendarski".

In the announced competition, for the academic position Associate Professor for the needs of the Faculty of Mathematics and Informatics (FMI) of PU "Paisii Hilendarski", a sole candidate participating is **Ch. Assistant Professor Dr. Silvia Nikolaeva Gaftandzhieva** from the same faculty. She has submitted a **complete set of documents** as required by the "Ordinance for the conditions and procedure for acquiring scientific degrees and academic positions in PU", which require applicants to participate in the competitions for occupying the academic position Associate Professor. They were given to me in full.

Ch. Assist. Dr. Silvia Gaftandzhieva is completed and Higher Education is in the FMI of PU "Paisii Hilendarski", - bachelor Informatics (2012) and then Master of Science in Informatics (2013). He has been awarded the educational and scientific degree "**Doctor**" in the scientific specialty - 01.01.12 "Informatics" by FMI at PU "Paisii Hilendarski" (2017).

It is evident from the submitted documents that Ch. Assistant Professor Dr. Silvia Gaftandzhieva meets the minimum requirements for candidates for the academic position of "Associate Professor" according to Article Art. 29. (1) of the Law for Development of the Academic Staff in the Republic of Bulgaria (LDASRB), as follows:

1. He has obtained the educational and scientific degree "**Doctor**".
2. Posing and has **publications in specialized scientific journals** that are not repeated the submitted for acquisition of educational and scientific degree "doctor" and for occupying the academic position "ch. assistant professor".
3. Posing and is and other original **research publications**.
4. She **meets the minimum national requirements** under Art. 2b, para. 2 and 3, respectively of the requirements under Art. 2b, para. 5.
5. There is no legally proven plagiarism in scientific works.

The documents provided to me for the competition contain the following references for Ch. Assist. Prof. Dr. Silvia Gaftandzhieva for:

- ... Fulfillment of the minimum national requirements for acquiring the academic position of "associate professor" according to the LDASRB and the Regulations for application of the LDASRB Area 4. Natural Sciences, Mathematics and Informatics; Professional field 4.6. Informatics and Computer Science;

- ... Compliance with the additional requirements of the FMI at the University of Plovdiv for holding the academic position of "Associate Professor ".

After getting acquainted with them and making appropriate checks, I can confidently conclude that the candidate meets the minimum requirements of both the LDASRB and the Regulations for the application of the LDASRB, and the additional requirements of the FMI at the University of Plovdiv to hold academic positions. "Associate Professor".

Ch. Assist. Prof. Dr. Silvia Gaftandzhieva is **established specialist with international recognition** in the field of computing . She is coauthor of **55 scientific publications** in Bulgarian and international journals and proceedings of prestigious conferences, and **7 books and book chapters**. Actively participates with reports in national and international forums - a total of over 17 reports. Total number of perceived **cited** according but provided reference, are **116** (without self-citations).

In the competition for academic positions "associate professor" candidate participates with **30 scientific publications** and **2 monographs** in co-authorship, which are not presented for the acquisition of the degree "doctor" and for academic positions "assistant professor". Of these, **12 have been published in peer-reviewed journals, 10 of which are indexed in Web of Science and/or SCOPUS**, and **8** of the SCOPUS-indexed publications are with **impact-rank**. In the peer-reviewed scientific collections are published 18 publications, 3 of which have been published in proceedings of international conferences and 5 in proceedings of national conferences.

In the publications submitted for the competition, the original scientific, scientific-applied and innovative applied **contributions** of Ch. Assist. Prof. Dr. S. Gaftandzhieva can be summarized in the following areas:

1. Computer models and systems for dynamic quality assessment - 10 scientific publications and 1 monograph; The main contributions in this direction are:
 - a comprehensive approach is proposed to ensure the quality of educational tests and models for assessing the quality of educational tests and test units at different stages of their life cycle;
 - a software application for assessing the quality of educational tests has been designed;
 - a mobile application has been designed and developed for conducting and summarizing the results of the survey for the needs of the university quality assurance systems;
 - a general model for dynamic accumulation and aggregation of data needed for quality assessment in higher education is proposed;
 - an approach for quality assessment in higher education is proposed by accumulating and summarizing data from different information systems;
 - an architecture has been proposed and a prototype of a software system for modeling, virtualization and dynamic management of workflows in corporate information infrastructure has been developed;
 - a formal model and architecture of a system for dynamic assessment of the quality of objects in any subject area is proposed;

- a model for assessing the degree of digitalization of higher education institutions has been proposed;
 - a model and architecture of a software system for tracking, analysis and monitoring of components and elements of corporate information structure are proposed;
 - a conceptual design of a complete solution for automation of a software quality assessment process is presented.
2. Intelligent data analysis for training - 3 scientific publications and 1 monograph; The main contributions in this direction are:
- developed a mobile application to improve student performance;
 - analysis of the information systems used in order to determine the appropriate data sources that can be used to improve learning outcomes;
 - created models with a set of indicators, allowing tracking of learning outcomes (for the needs of different stakeholders).
3. Models and systems for e-learning - 11 scientific publications; The main contributions in this direction are:
- conducted and successfully and experiment and to integrate SEO Moodle with university information system and modern web technologies;
 - an innovative accumulative frame model is proposed;
 - a system of 36 accumulative frame models has been created for learning the syntax of the C ++ programming language;
 - information and computer models for data extraction and aggregation and automation of e-learning tasks have been developed;
 - a software tool for programming training has been developed using accumulative frame models.
4. Pedagogical and social design of e-learning - 6 scientific publications, 2 monographs, 1 chapter of a book; The main contributions in this direction are:
- a package of models of documents for organizing and conducting electronic and distance learning is proposed;
 - e-Learning 2.0 ideas are implemented by integrating 11 web tools in 47 learning activities in an e-course "Spreadsheets";
 - The results of a large-scale study on the application of social networks for educational purposes with 19,987 participants from 75 countries were analyzed.

From the presented publications for participation in the competition by Ch. Assistant Professor Dr. S. Gaftandzhieva presented evidence of **83 citations** of **29** publications in scientific publications of other authors, which are not presented in the procedure for acquiring degree "Doctor" and for holding the academic position of "Chief Assistant". **13 of the presented citations** are in publications that are indexed in **Web of Science and/or SCOPUS**, as **1** of them is in a **publication with impact factor** and **3 in publications with impact rank**.

Ch. Assist. Prof. Dr. S. Gaftandzhieva has participated in **12 research and educational projects** in the field of information and communication technologies, e-learning and distance learning, automated quality assessment, integration of software systems, etc., including **5 international, 2 national** and **5 university**.

Ch. Assist. Prof. Dr. S. Gaftandzhieva is a member of the board of **3 international journals** and has participated in the program committees of **9 international conferences, the collections of 2 of which are indexed in SCOPUS**. So far, she has reviewed 14 publications (8 of them for SCOPUS-indexed editions) and 2 chapters for a Springer-indexed books.

Ch. Assist. Prof. Dr. S. Gaftandzhieva has **an active teaching activity**. As an assistant and chief assistant in the Department of Computer Informatics, and before that as a part-time lecturer at the University of Plovdiv "Paisii Hilendarski" (in the period 2013-2020), she has prepared and led exercises and lectures for students from more than 10 specialties from 4 professional fields (PN 1.3. Pedagogy of teaching in..., PN 4.1. Physical sciences, PN 4.6. Informatics and computer sciences, PN 5.3. Communication and computer technology) from Bachelor's and Master's degrees. Regularly updates the learning content and uses modern methods and technical teaching aids (including e-learning environments). There is a textbook published in co-authorship with Prof. Rositsa Doneva: "Object-oriented design and programming (with examples of C ++), University Publishing House "Paisii Hilendarski" and many textbooks provided to students in electronic form. The candidate has been a supervisor of 12 graduate degree theses: 10 - Bachelor and 2 - Master, who successfully defended. She is currently co-supervisor (with Prof. Dr. Georgi Totkov) of a doctoral student. Her dedicated work with students, outcomes in five joint papers, one of which is indexed and in WoS and Scopus. For me indisputable fact is, that Ch. Assist. Prof. Dr. S. Gaftandzhieva **has gained reach teaching experience**, making her a worthy candidate for the academic position "associate professor".

CONCLUSION

The documents and materials submitted by Ch. Assistant Professor Dr. S. Gaftandzhieva **meets all the** requirements of the ZRASRB, the Regulations for implementation of ZRASRB and the relevant regulations of PU "Paisii Hilendarski" and FMI for the academic position "Associate Professor". She is an **established specialist with international recognition** in the fields of informatics such as educational software, programming languages and more. Her scientific contributions are original and significant. Proof of this are the publications in authoritative international issues with many **references** and participation in number of **international projects**. She has **extensive teaching experience**.

Having in mind the above, I give a **positive assessment to the candidate Ch. Assist. Prof. Dr. Silvia Gaftandzhieva** and I propose to the Scientific Jury to prepare a report to the Faculty Council of FMI at University of Plovdiv "Paisii Hilendarski" with a proposal for her election to the academic position of "Associate Professor" in professional field 4.6 Informatics and Computer Science, specialty "Informatics", announced in SG No. 57 of 26.06.2020.

06.11.2020

City. Sofia

Signature:

/Prof. Dr. Ivan Koychev/