OPINION

by Rositsa Zhelyazkova Doneva, PhD –

Professor at the University of Plovdiv "Paisii Hilendarski"

of the materials, submitted for the participation in the competition for occupying the academic position **Associate Professor**

at the University of Plovdiv "Paisii Hilendarski"

in the field of higher education **4. Natural science, Mathematics and Informatics,**

professional field **4.6. Informatics and Computer Science** (Informatics)

1. Data for the competition

In the competition for the academic position Associate Professor announced in the State Gazette, issue no. 57/26.06.2020 for the needs of the Faculty of Mathematics and Informatics (FMI) at the University of Plovdiv "Paisii Hilendarski" (PU) as the only candidate participates Chief Assistant Dr. Silvia Nikolaeva Gaftandzhieva from the same faculty.

The set of documents for the competition and materials included in it, presented by Dr. Silvia Gaftandzhieva meet the requirements of the Act on the Development of Academic Staff in the Republic of Bulgaria, Regulations on the Implementation of the Development of Academic Staff in the Republic of Bulgaria Act and the relevant Rules of PU.

2. Data for the candidate

Chief Assistant Dr. Silvia Gaftandjieva graduated a bachelor's degree in "Informatics" at the University of Plovdiv "Paisii Hilendarski" in 2012 and a master's degree in "Business Informatics with English" at the University of Plovdiv "Paisii Hilendarski" in 2013. She is a part-time lecturer at the University of Plovdiv "Paisii Hilendarski" since 2013. Since 2017 she has been working as an Assistant and Chief Assistant at PU, FMI, Department of Computer Science. She acquired the educational and scientific degree "Doctor" in the doctoral programme "Informatics" in 2017 (after PhD studies at the University of Plovdiv).

Chief Assistant Dr. Silvia Gaftandzhieva has extensive teaching experience (prepared and conducted exercises for over 20 disciplines) and skills for conducting research, evidence of which are her publishing activity, her active work as a supervisor of many successfully defended gradu-

ates (bachelors and masters) and her participation in 12 research projects - 5 international, 2 national and 5 university projects.

She is a member of the Editorial board of 3 international journals and has participated in the programme committees of 9 international conferences, the proceedings of 2 of which are indexed in SCOPUS.

3. Description of scientific works

The full list of scientific works of Chief Assistant Dr. Silvia Gaftandzhieva includes 63 scientific works, of which 7 monographs and a book chapter, 1 textbook, 19 publications in international journals, 23 publications in proceedings of national conferences and 13 publications in proceedings of international conferences. Ch. Assistant Dr. Silvia Gaftandzhieva has 25 publications indexed in the world-renowned databases of scientific information Web of Science and/or SCOPUS. Results from 31 scientific works with the participation of Chief Assistant Dr. S. Gaftandzhieva have been cited 116 times.

For her participation in the competition, Chief Assistant Dr. Silvia Gaftandzhieva presented a list of 2 monographs, 1 book chapter, 30 scientific publications, 1 textbook and 12 e-courses. 12 of these publications are published in refereed journals in English, 11 of which are indexed in the world-renowned databases of scientific information Web of Science and/or SCOPUS (8 with SJR - total SJR 1.305). 18 publications have been published in conference proceedings (3 in proceedings of international conferences and 15 in proceedings of national conferences, 4 of which are in English and 14 in Bulgarian).

The candidate presents evidence of 83 citations of 29 publications in scientific publications of other authors in the competition documents, which are not used in the procedure for awarding the educational and scientific degree "Doctor" and for occupying the academic position. Chief Assistant. 13 of these citations are in publications which are indexed in the world-renowned databases of scientific information Web of Science and/or SCOPUS, as 1 of them is in a publication with impact factor and 3 in publications with impact rank.

The results obtained by the candidate exceed the minimum national requirements and the additional requirements of FMI for occupying the academic position Associate Professor in the professional field 4.6. Informatics and computer science:

- Minimum national requirements - number of points per group: Indicators from Group A - 50 points (minimum 50 points), Indicators from Group B - 100 points (minimum 50

points), Indicators from Group D - 339 points (minimum 200 points), Indicators from Group E - 104 points (minimum 50 points);

- Additional requirements of FMI: 30 publications (minimum 10 publications), 12 publications in journals (minimum 5 publications in journals), 1 textbook (minimum 1 textbook), evidence of 83 citations (minimum 5 citations).

4. Teaching work

As a teacher at FMI, University of Plovdiv "Paisii Hilendarski", Chief Assistant Dr. Silvia Gaftandzhieva has led exercises in several disciplines at FMI in Bachelor degree study programmes, incl. Project Management, Introduction to Computer Science, Programming, Algorithms and Data Structures, Web programming, Business process modelling and management.

Chief Assistant Dr. Silvia Gaftandzhieva has developed learning materials and lectures for 2 elective courses in the field of competition: Object-oriented design and programming (with C++ examples) and Contemporary web technologies and applications.

Chief Assistant Dr. Silvia Gaftandzhieva also led 2 courses at the University Centre for Work with Young Scientists, Doctoral and Postdoctoral Students: Doctoral Studies - Algorithms of Successful Practice. Challenges for female PhD students, and Research and empirical research methodology.

Chief Assistant Dr. Silvia Gaftandzhieva actively participates in the organization and conduct of training in the E-Learning Master's program. She has led exercises in E-learning systems, Open software for education, ICT in education, LMS Moodle, E-learning management, E-learning methodology, etc.

As a part-time teacher at PU Chief Assistant Dr. Silvia Gaftandzhieva has led exercises in several disciplines in the field of the announced competition, incl. Client-side web-programming, Programming, Computer systems and technologies, Object-oriented programming and design, Technology of programming, Algorithms and Data Structures, etc.

Chief Assistant Dr. Silvia Gaftandzhieva was the supervisor of 12 successfully defended graduates. Now she is the supervisor of 1 PhD student.

Chief Assistant Dr. Silvia Gaftandzhieva uses modern methods and tools for training (incl. learning management systems, Web 2.0, 3.0 and 4.0 tools, cloud technologies, online testing and

assessment, etc.) in her teaching practise. For all disciplines, the candidate has developed e-courses in an e-learning environment Plovdiv Electronic University (Moodle).

She is a co-author of 1 textbook: Object-oriented design and programming (with C++ examples).

Chief Assistant Dr. Silvia Gaftandzhieva takes part in commissions for checking entrance exams in Informatics. She is also a member of the Faculty Accreditation Commission.

5. Contributions

The studies of Chief Assistant Dr. Silvia Gaftandzhieva are related to modern areas in the field of the announced competition, such as Computer models and systems for quality evaluation, Learning Analytics, Models and systems for learning, Pedagogical and social design of training.

Of particular interest are the achieved results related to computer models and systems for quality evaluation: proposed formal model and architecture of a software system for dynamic quality evaluation of objects in any subject area; proposed approach for quality evaluation in higher education by accumulating and aggregation of data from different information systems; proposed architecture and prototype of a software system for modelling, virtualization and dynamic management of workflows in a corporate information infrastructure; proposed models and developed software tools for quality evaluation of electronic tests and test units; developed software tools for analysing survey results for the needs of university quality assurance systems; proposed model for measurement of the degree of digitalization in higher education institutions; proposed model and architecture of a software system for tracking, analysis and monitoring of components and elements of corporate information structure; proposed conceptual design of a complete solution for automating the software quality assessment process.

Research results have also been achieved in an area that is still at a relatively early stage of development (and in Bulgaria is very little studied) - Learning Analytics. Models with a set of indicators have been proposed, allowing monitoring of learning outcomes (for the needs of various stakeholders - students, teachers, program managers, faculty management, university management, members of quality committees and external experts). Based on the developed models, tools for intelligent analysis of data for the needs of various stakeholders have been designed and developed to improve student results.

In a result of the study, the learning management system Moodle has been extended through integration with the university information system and web tools. As a development of

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the classic frame model, an accumulative frame model with accumulative functions is proposed. It allows the accumulation of data in the e-learning process. Tools for its application in programming training have been developed.

In the field of Pedagogical and social design of education, a package of templates of documents for the organization and conduction of e-learning and distance learning is developed. An approach for the implementation of e-Learning 2.0 ideas is proposed by integrating 11 web tools in 47 learning activities in Spreadsheets e-course. Also of interest are the summarized results of a large-scale survey on the use of social networks for educational purposes with the participation of 19,987 from 75 countries.

The contributions in the presented publications can be defined as scientific, scientific-applied and applied. I have no doubts about the personal input of the candidate for receiving the results.

I would like to make a recommendation related to the future academic development of Chief Assistant Dr. Silvia Gaftandzhieva, namely to try to involve other young researchers in her work to whom to pass her creative enthusiasm and dedication to scientific and teaching work.

6. Personal impressions

I have known Silvia Gaftandzhieva for 11 years (as a student), and I can confidently confirm that she is a fully developed researcher and teacher.

CONCLUSION

The documents and materials submitted by Chief Assistant Dr. Silvia Nikolaeva Gaftandzhieva meet the requirements of the Act on the Development of Academic Staff in the Republic of Bulgaria, Regulations for its implementation and the relevant Regulations of the University of Plovdiv.

The scientific and teaching qualification of Silvia Gaftandzhieva and the results obtained by her exceed the minimum national requirements and the additional requirements of FMI for occupying the academic position Associate Professor in the professional field 4.6. Informatics and computer science.

There are a sufficient number of results with scientific, scientific-applied and applied nature in the scientific works presented by the candidate. I have not found any plagiarism in the candi-

date's scientific works in terms of the Act on the Development of Academic Staff in the Republic of Bulgaria.

After the analysis of all materials and scientific works submitted for the competition, I give my **strongly positive assessment** and recommend the **Esteemed Scientific Panel to support a report-proposal to the Faculty Council of the Faculty of Mathematics and Informatics for the election of Chief Assistant Dr. Silvia Nikolaeva Gaftandzhieva for the academic position Associate Professor** at PU "P. Hilendarski" in professional field 4.6 Informatics and Computer Science (Informatics).

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                                                                                        (Prof. Rositsa Doneva, PhD)