

## **REVIEW**

**of Chief Assistant Silvia Nikolaeva Gaftandzhieva, PhD**

for the participation in the competition for the academic position **Associate Professor**  
in professional field **4.6 Informatics and Computer Science** (Informatics)

**Reviewer: Acad. Ivan Petkov Popchev**

By Order №P33-4709, Plovdiv, 25.09.2020 of the Rector of the University of Plovdiv “Paisii Hilendarski” Prof. Dr. Rumen Mladenov in regards with the announced competition for the academic position Associate Professor in State Gazette, iss. 57/ 26.06.2020 in the field of higher education 4. Natural sciences, mathematics and informatics, professional field 4.6. Informatics and Computer Science (Informatics) and report by Prof. Dr. Angel Atanasov Golev - Dean of the Faculty of Mathematics and Informatics, I have been nominated as an internal member of the University of Plovdiv of the Scientific Panel, approved by a decision of the Faculty Council of the Faculty of Mathematics and Informatics, Protocol №8/15.07.2020.

I have been selected as a reviewer for the announced competition at a meeting of the Scientific Panel, Protocol №1/01.10.2020.

As a reviewer in the competition, I have received all 14 documents included in the application (Registration Index and date, 132-24/07.08.2020) from Chief Assist. Dr. Silvia Nikolaeva Gaftandzhieva to the Rector of the University of Plovdiv “Paisii Hilendarski”.

According to the Act on development of the academic staff in the Republic of Bulgaria, Regulations on the Implementation of the Development of Academic Staff in the Republic of Bulgaria Act and Additional Requirements for the academic position Associate Professor of the Faculty of Mathematics and Informatics (FMI), the applicants for Associate Professor must meet certain conditions and requirements.

Art. 24. (1) The applicants to occupy the academic position Associate Professor must meet the following conditions:

1. to have been awarded the educational and scientific degree of Doctor;
2. for minimum two years:
  - a. to have occupied the academic position of Assistant, Chief Assistant;
3. to have presented a published monograph or equivalent publications in specialized scientific issues ..., which do not reproduce those presented for awarding the educational and scientific degree of Doctor and for awarding of the scientific degree of Doctor of Science;

4. to meet the minimum national requirements under Art. 2b, para. 2 and 3, respectively the requirements under Art. 2b, para. 5

5. to have no plagiarism proven as per the legally established order in the scientific works.

(2) The academic position Associate Professor shall be held on the basis of competition and election.

(3) A competition for holding the academic position of Associate Professor shall be opened, if it is possible the relevant teaching and research load to be provided, according to the relevant rules of procedure of the higher school or scientific organization.

Additional faculty requirements to the applicants for academic positions which must be checked by the Scientific Panel for the competition are:

- at least 10 publications, which must not be presented for awarding the educational and scientific degree Doctor, for awarding the scientific degree Doctor of Science and for occupying the academic position Chief Assistant;
- at least 5 of the submitted publications must be in a journal;
- at least 1 textbook or manual;
- evidence of at least 5 citations.

Chief Assist. Dr. Silvia Nikolaeva Gaftandzhieva **meets the conditions of Art. 24 (1).1** because she has defended a dissertation on “Model and System for Dynamic Quality Evaluation in Higher Education”. She has a Diploma 0001000242, issued on February 21, 2017.

Chief Assist. Dr. Silvia Nikolaeva Gaftandzhieva **meets the conditions of Art. 24 (1) .2a** because in a certificate (№U-203/13.07.2020), signed by the Rector Prof. Dr. Rumen Mladenov it is assured that she works at the University on a basic employment contract with Order №P34-05/03.01.2017 as an Assistant in the Department of Computer Science. Until July 7, 2020, she has a total work experience of 10 years, 05 months and 09 days, of which 03 years, 05 months and 29 days is pedagogical.

Chief Assist. Dr. Silvia Nikolaeva Gaftandzhieva **meets the conditions of Art. 24 (1) .3** because she presented a **published collective monograph in the Bulgarian language: “S. Gaftandzhieva, G. Totkov, R. Doneva. Quality and evaluation of e-learning (with good university practices)”**. First edition. Reviewers: Prof. Dr. Sotir Sotirov, Assoc. Prof. Dr. Juliana Peneva. Scientific editor: Prof. DSc. George Totkov. Plovdiv University Press "Paisii Hilendarski" 2020, 423 p. (according to the "Separation Protocol" from July 7, 2020, independent authorship 165 p.). ISBN 978-619-202-538-0.

The “**Complete list of scientific works**” attached to the competition documents contains scientific works divided into the following groups.

I. Scientific works presented for awarding the educational and scientific degree Doctor - 10 works.

II. Scientific works presented for participation in a competition for the academic position Chief Assistant - 3 works.

III. Scientific works presented for participation in a competition for the academic position Associate Professor - 34 works.

IV. Scientific works that have not been used in previous competitions and are not included in the current competition - 16 works.

The “**List of scientific works for participation in the competition**” contains:

I. **Monographs and a book chapter** (A1, B1, C1).

II. **Scientific papers:**

D. Scientific papers in journals, which are referenced and indexed in the world-renowned databases of scientific information (Web of Science and/or SCOPUS) - 11 papers.

E. Scientific papers in other editions - 19 papers.

III. **Textbooks and teaching courses:**

F. Textbook - 1 textbook.

G. E-courses - 12 e-courses.

**The additional analysis** of 34 publications presented for participation in the competition shows that:

–17 publications are in Bulgarian;

–**all publications are written with co-authors.**

The “**List of observed citations**” includes two groups: I. **Citations** in science editions, monographs, collective volumes and patents, referenced and indexed in world-renowned databases of scientific information (Web of Science and SCOPUS) - a total of **13 citations of 9 publications**. II. **Other citations** - a total of **70 citations of 28 publications**.

**Chief Assist. Dr. Silvia Nikolaeva Gaftandzhieva fulfils the conditions of:**

–**Art. 24 (1).4** because she covers the minimum national requirements under Art. 2b, para. 2 and 3 and respectively the requirements under Art. 2b, para. 5. According to the “Report on fulfilment of the minimum national requirements of Chief Assist. Dr. Silvia Gaftandzhieva” by groups of indicators the number of points is: A - 50, C - 100, D - 339, E - 104.

–**Art. 24 (1).5** because she has no plagiarism proven as per the legally established order in the scientific works.

**Chief Assist. Dr. Silvia Gaftandzhieva meets the additional requirements for occupying the academic position Associate Professor of FMI** at the University of Plovdiv, which are presented in the “**Report for fulfilment of the additional requirements of FMI for academic position Associate Professor**”, signed by Assoc. Prof. Dr. Elena Somova – Head of Computer Science Department and Prof. Dr. Angel Golev – Dean of the Faculty of Mathematics and Informatics.

In accordance with Art. 65 (1), para. 4 and 5 of Rules for the development of the academic staff of the University of Plovdiv “Paisii Hilendarski”, the applicant submitted “**Annotations of the materials, including self-assessment of the contributions**” - **33 pages**.

The reviewer is obliged to note that according to Act on development of the academic staff in the Republic of Bulgaria, Section III. Terms and Conditions and Procedure of Occupying the Academic Position of Reader, Art. 26. Applicants shall submit ... and a reference to the original scientific contributions to which, shall be attached the relevant evidence ...

**The contributions of Chief Assist. Silvia Gaftandzhieva**, accepting equal participation in collective works, can be briefly systematized as follows:

1. A formal model of a system for dynamic quality evaluation that includes processes for modelling the organization and management of activities for the accumulation of information resources for a given institution is proposed. The architecture of an automated system for dynamic quality evaluation with formulated functional and non-functional requirements to each subsystem in the architecture (A1, D3) is proposed.
2. After analysis of models for measuring a level of digitalization, a model for measuring a level of digitalization of higher education institutions is proposed with 88 indicators, divided into 10 key elements according to the ESG (A1) standards.
3. Based on Learning Analytics, 7 models with a set of indicators for students, teachers, program managers, members of quality committees, faculty management, university management and external experts are proposed. The models are built on a hierarchical principle with measurable indicators at three levels with data from university information systems (A1, D7, D14, E18).
4. An accumulative frame model is proposed as a development of the classical frame model with accumulative functions that allow accumulation of data in the e-learning process for automation of learning tasks: automated generation of metadata and test items, text segmentation, data extraction from text, etc. Based on it are developed: a system of 20 accumulative frame models for studying the syntax of C++ operators; software tool CumuFormo for design of frame-prototypes and frame-instances, software tools for extracting and summarizing data for knowledge and processes (E10, E11, D8, E12, D9, E15, D10, E19).

5. The results of a survey conducted among 19,987 teachers from 75 countries are summarized to answer the question to what extent and for what purposes teachers from different countries around the world use social networks in their teaching practice (C1).

Since 2017 Chief Assist. Dr. Silvia Gaftandzhieva as an **Assistant** and a **Chief Assistant** performs active and successful teaching and research activities, which with 10 documents can be briefly presented as follows:

1. The **“Report for classroom and extracurricular employment”** notes that as an Assistant and Chief Assistant she performs her classroom and extracurricular employment above the assigned annual norm. As an administrator of the e-learning environment "Plovdiv e-University - Moodle" she assists teachers and students. She has supervised 10 students who successfully defended their thesis and has been a reviewer of 12 student theses. She is a supervisor of 1 PhD student.
2. **“Teaching experience”** lists: I.1. Prepared and conducted lectures - 6. I.2. Prepared and guided exercises - 8.
3. The **“List of published teaching materials”** contains 1 textbook and 17 e-courses.
4. The **“Report for work with students and PhD students”** lists 12 successfully defended students and 5 scientific publications with students and PhD students, 1 of which has SJR = 0.148.
5. The **“Report for research activity”** contains the publications and citations for participation in the competition, lists of participations in 12 projects, a list of memberships in editorial boards of 3 journals, program committees of 9 international conferences and a list with reviews of 14 publications and 2 book chapters.
6. The **“Report for participation in research and educational projects”** and the **Official Notes** from the **Department of Scientific and Applied Activity** of the University of Plovdiv “P. Hilendarski” and the **Human Resources Department** of the University of National and World Economy list participation in 12 projects.
7. The **“Report for participation with presentations at national and international conferences”** lists 17 participations.
8. **“Certificates for participation in international and national scientific forums”**: e-Learning’ 15 International Conference; e-Learning’ 16 International Conference; Seventh National Conference on e-learning in higher education 2018.
9. The **“List of participations in editorial boards of journals and program committees of international conferences”** lists participation in the editorial boards of 3 international journals and program committees of 9 international conferences, volumes of 2 of which are indexed in SCOPUS.

10. The “**List of peer-reviewed scientific publications in international journals**” contains 16 manuscripts.

The summary “**scientific metric image**” of Chief Assist. Silvia Gaftandzhieva can be created from data in the world's scientific bases:

- SCOPUS: 15 documents by author, 2 total citations, h-index 1;
- Web of Science: 19 publications, 8 Sum of Times Cited, h-index 2;
- Google Scholar: 77 references, h-index 4, 10-index 0;
- ResearchGate: 10.54 RG Score, h-index 5, h-index 2 excluding self-citations.

The summary “**scientific metric image**” provides sufficiently accurate information for **self-analysis** and new research activities.

**The qualities of Chief Assist. Dr. Silvia Gaftandzhieva as a teacher and researcher, as well as her opportunities for further successful and effective development, can be assessed highly. This obliges the reviewer to recommend to the applicant and independent publishing activity in journals with quartiles, grouped by Journal Citation Reports (JCR) in the scientific field.**

### **CONCLUSION**

All requirements, conditions and criteria according to Act on development of the academic staff in the Republic of Bulgaria, Regulations on the Implementation of the Development of Academic Staff in the Republic of Bulgaria Act and additional requirements for the academic position Associate Professor of FMI have been met. I give a definite **positive conclusion** for the election of Chief Assist. Dr. Silvia Gaftandzhieva in the competition for the academic position Associate Professor in the professional field 4.6. Informatics and Computer Science (Informatics).

**I propose the Scientific Panel unanimously vote on a proposal to the Faculty of Mathematics and Informatics to elect Chief Assis. Dr. Silvia Nikolaeva Gaftandzhieva for the academic position Associate Professor in the professional field 4.6. Informatics and Computer Science (Informatics).**

12.10.2020

**Reviewer:** .....

(Acad. Ivan P. Popchev)