

**REVIEW**  
**for a competition for occupation of the academic position**  
**‘Associate Professor’**  
**in Professional Field 1.3. Pedagogy of Teaching ... (Methodology of Teaching In-**  
**formation Technology and Working in a Digital Environment)**  
**for the needs of Plovdiv University ‘Paisii Hilendarski’**  
**Faculty of Pedagogy**  
**announced in State Gazette No. 39 of 02.05.2023**

The review was prepared by **Prof. Kosta Andreev Garov, PhD** from the Faculty of Mathematics and Informatics of Plovdiv University ‘Paisii Hilendarski’, Plovdiv, **specialist** in Field of Higher Education 1. Pedagogical Sciences, Professional Field 1.3 Pedagogy of Teaching ..., Scientific Specialty Methodology of Teaching Informatics and Information Technologies. By order No. PД-21-1418/30.06.2023 of the Chancellor of Plovdiv University ‘Paisii Hilendarski’ I was appointed as a member of the Scientific Jury for the competition for Associate Professor in Professional Field 1.3. Pedagogy of Teaching ... (Methodology of Teaching Information Technology and Working in a Digital Environment). At the first meeting of the Scientific Jury, held on 05.07.2023, I was elected Chairman of the jury and was assigned to write a review for the competition.

The **only candidate**, who submitted documents to participate in the announced competition is: Chief Assistant Vilislav Ivanov Radev, PhD from the Faculty of Pedagogy of Plovdiv University.

**1. Application Data**

In my capacity as a reviewer, I received and checked the documents submitted by the candidate for participation in the competition. The set of materials presented by Ch. Asst. Vilislav Radev, PhD in paper format complies with the Rules for the Development of the Academic Staff of Plovdiv University ‘Paisii Hilendarski’ and includes the following documents:

1. Application form to the Chancellor for admission to the competition;
2. CV in European format;
3. Diploma of Higher Education with acquired academic degree ‘Master’;
4. Diploma for educational and scientific degree ‘Doctor’;
5. List of scientific works and copies of scientific works;
6. Reference list;
7. Certificate of compliance with the minimum national requirements and the additional requirements of the faculty;

8. Annotations of the materials under Article 65 of the Rules for the Development of the Academic Staff of Plovdiv University 'Paisii Hilendarski' (in Bulgarian and in English language);
9. Self-assessment of contributions;
10. Declaration of originality and authenticity of enclosed documents;
11. Certificate of work experience;
12. Documents for academic work;
13. Documents for research work;
14. Documents according to the additional requirements of the Faculty of Pedagogy;
15. Other documents;
  - 15.1. Certificates;
  - 15.2. Evidence of citations;
  - 15.3. Certificates of participation in conferences and trainings;
16. Set of paper documents from item 1 to item 17 - 3 sets;
17. Documents from items 1, 2, 5, 7, 8, 9, 15 on digital data storage device - 8 sets.

I established the regularity of the documents submitted by the candidate for the competition and that they comply with the requirements of the Development of Academic Staff in the Republic of Bulgaria Act (DASRBA), the Rules on its implementation and the Rules on the conditions and procedure for acquiring scientific degrees and holding academic positions in Plovdiv University 'Paisii Hilendarski'.

Chief Asst. Vilislav Ivanov Radev, PhD participates in the competition for Associate Professor with 14 scientific works: 2 monographs and 12 scientific articles, 8 of which in Bulgarian language and 4 in English language. Five of the articles are published in scientific publications, referenced and indexed in Web of Science – 4 own and 1 in co-authorship. This scientific production has not been presented for the acquisition of the educational and scientific degree Doctor'.

All scientific works correspond to the profile of the competition, meet the requirements and are accepted for review.

## **2. Application Data**

Vilislav Ivanov Radev has a sound education in the field of mathematics, informatics and information technology. He completed his secondary education at the elite Exemplary Secondary School of Mathematics 'Academician Kiril Popov' in the town of Plovdiv in 2004, profile Natural Sciences-Mathematics-Physics – with English language intensively studied. In 2008, he acquired a bachelor's degree in Mathematics and Informatics, qualification Mathematics, Informatics and Information Technology Teacher at Plovdiv University, Faculty of Mathematics and Informatics (FMI). In 2009, he acquired a master's degree in Business Informatics with English, qualification Informatician, at the Faculty of Mathematics and Informatics, Plovdiv University. In the period from 01.03.2010 to 03.06.2015 he was a full-time doctoral student, in the doctoral

program *Methodology of Teaching Informatics and Information Technology*. On 03.06.2015, he acquired the educational and scientific degree 'Doctor' in Field of Higher Education 1. Pedagogy, Professional Field 1.3. Pedagogy of Teaching ... (Methodology of Teaching Informatics and Information Technology).

The professional career of Ch. Asst. Vilislav Ivanov Radev, PhD, started in 2008 at Plovdiv University 'Paisii Hilendarski', where he currently works. He has held consecutively the positions: system administrator, part-time assistant, assistant and chief assistant.

The main activities and responsibilities of Ch. Asst. Vilislav Ivanov Radev, PhD can be divided into: teaching and research.

**The educational and teaching activity** of Vilislav Radev is related to reading lectures and conducting seminars on the academic disciplines: 'Information and Communication Technologies in Teaching and Working in a Digital Environment', 'Mathematics - Part 1', 'Mathematics - Part 2', 'Alternative Technologies in a Digital Environment' and 'Methodology of Teaching Computer Modeling' in the Department of Primary School Pedagogy within the Faculty of Pedagogy, Plovdiv University 'Paisii Hilendarski', from 07.03.2016 until now. The academic disciplines taught by him to undergraduate and postgraduate students are of different categories: compulsory, elective and optional, and for each of them he has developed the corresponding curricula. With a planned annual teaching workload of 360 hours, Ch. Asst. Vilislav Radev, PhD has over 800 hours. He is the supervisor of 6 successfully defended diploma theses of undergraduate and postgraduate students.

The assessment of the educational and teaching activities of Ch. Asst. Vilislav Ivanov Radev, PhD is **high**. In his teaching work, he uses the most modern teaching methods, applying the latest achievements of information and communication technologies.

**The scientific interests** of the candidate are in the field of *Methodology of Teaching Information Technology and Working in a Digital Environment*. His professional competence and qualification are in accordance with the profile of the announced competition for associate professor. I know Ch. Asst. Vilislav Ivanov Radev, PhD since more than 30 years. I am the scientific supervisor of his dissertation work. The educational qualification and professional realization of Vilislav Radev logically directs him to the development of a dissertation work in the field of methodology of teaching informatics and information technology. The experience accumulated over the years and participation in scientific, scientific and applied projects justify the choice of the topic of the dissertation and are a prerequisite for the scientific, and scientific and applied results obtained in the work. The topic of the dissertation work 'Application of Information Technology in Teaching Discrete Mathematics in School' is relevant for mathematics, informatics and information technology teaching practice, both in secondary and in

higher schools in Bulgaria. The main task of the development is to propose an update of the teaching content in mathematics at school and a corresponding methodology and methodological toolkit for teaching. The dissertation contains an in-depth analysis of the educational standards and programs for studying discrete mathematics in the Bulgarian school. As a scientific supervisor of Vilislav Ivanov Radev, I will note that during the three-year period of conducting the doctoral studies, he strictly followed the individual curriculum and my instructions. As a result of his activity, a dissertation study with very positive theoretical and practical results was obtained.

My personal impressions of Vilislav Radev as a lecturer, scientist and colleague are excellent. He is a dedicated lecturer, a consistent researcher, a courteous colleague and an impeccable administrator. He is a member of various scientific organizations such as the authoritative association 'Bulgarian Association for Educational Research', Union of Bulgarian Mathematicians, etc.

### **3. General Characteristics of the Scientific Works and Achievements of the Candidate**

The scientific works presented by the candidate for participation in the competition **meet** the minimum national requirements (according to Article 2b, paragraphs 2 and 3 of the Development of Academic Staff in the Republic of Bulgaria Act) and, accordingly, to the additional requirements of the Faculty of Pedagogy, Plovdiv University 'Paisii Hilendarski' for occupying the academic position 'Associate Professor' in Scientific Field 1. Pedagogy, Professional Field 1.3. Pedagogy of Teaching ... (Informatics and Information Technology). The following conclusions can be drawn from the certificate of compliance with the minimum national requirements of the applicant. In indicator **A** of the requirements, with a minimum number of required points - **50**, Ch. Asst. Vilislav Radev, PhD has **50** points. In indicator **C**, with a minimum number of required points - **100**, the candidate has **100** points. In indicator **D**, with a minimum number of required points **200+60=260** Ch. Asst. Vilislav Radev, PhD has **280** points. In indicator **E**, with a minimum number of required points **50+20=70**, Ch. Asst. Vilislav Radev, PhD has **215** points. The candidate's total number of points is **645** and **exceeds** the minimum number of points required for holding the academic position 'Associate Professor' in Field of Higher Education 1. Pedagogy, Professional Field 1.3. Pedagogy of teaching... - **400+80=480 points**.

The scientific works and achievements of the candidate are mainly in the field of methodology of teaching mathematics, informatics and information technology in secondary and higher education in Bulgaria. The scientific works presented by Vilislav Radev for participation in the competition **do not repeat** those works from previous procedures for acquiring a scientific title and academic position. According to the law, **there is no proof of plagiarism** in the scientific works submitted for the competition. The candidate has followed the rules of scientific ethics – he has not published the same

manuscript in different places, **there is no plagiarism**, he has not used the ‘**copy-paste**’ **technique** in the publications submitted for review.

#### **4. Scientific and scientific and applied achievements of the candidate contained in the materials for participation in the competition**

Ch. Asst. Vilislav Radev, PhD indicated scientific contributions in 3 thematic fields.

**First Field.** Research and developments related to applying information technology in virtual classroom learning with the help of electronic textbooks: [8; 9; 10 of the attached list of publications]. Conferencing technologies for connection and control over learning through the virtual classroom are examined. The advantages of online meetings in e-learning are shown. [10] The use of electronic textbooks during teaching students is presented. Emphasis is placed on their preparation and the organization of the lesson and the learning process. The similarities and differences between the e-textbook and paper ones are discussed. [9] Specialized software is examined and the inclusion of children in the computer culture, which is an essential part of the modern technical culture of man, is presented. Areas of competence in studying Computer Modeling in the field of Algorithms are reviewed and learning outcomes are shown. [8]

**Second Field.** Research and developments related to the use of information and communication technologies in education and the creation of auxiliary digital resources in mathematics at the primary stage of education and preschool age: [1; 3; 4; 5; 6; 7; 8; 11; 12; 13; 14]. The main scientific contributions related to **the second field** are the following. Some aspects regarding the application of modern information technology and educational software products as means of learning in primary school, supporting the process of more effectively achieving learning goals in various school subjects, and more specifically in teaching mathematics, are investigated. [1]

A system and technology for learning mathematics dedicated to the application of information technology in creating educational games for acquiring new knowledge in elementary school are developed and presented. [3; 4; 5; 7; 8; 11; 12; 13; 14]

Specialized block programming software Scratch is considered for introducing children to computer culture. [1; 3; 7; 13]

The main objective is to develop on Scratch, experiment and establish the effectiveness of a software package of an animated module based on the mathematics teaching content in primary education. [11; 12; 14]

A technological option for the use of Scratch in creating educational games for acquiring new knowledge in kindergarten is developed. The relationship between information and communication technologies for creating key competences is shown. An animated module preparing children to face the challenges of digital learning methods is presented. [6]

**Third Field.** Developments related to the development of mathematical competences in discrete mathematics with the help of information technology: [2]. The main scientific contributions related to **the third field** are the following. The modern trends for the development of mathematical competences in discrete mathematics with the help of information technologies are presented. [2] The LogicalCircuits (LC) combinational circuit constructor are developed to represent Boolean functions for educational purposes. [2] The computational capabilities of the Post machine and the Turing machine are explored. [2] With the help of Post and Turing machines simulator, mathematical models of the two machines are presented and implemented.

The proposed ideas and results achieved by Vilislav Radev have already found an echo in the specialized scientific literature - he has presented a total of **22** citations of his publications. Seven of them are in scientific publications, referenced and indexed in world-renowned databases, 6 - in monographs and collective volumes with scientific peer-review, 9 - in non-refereed journals with scientific peer-review.

## **5. Critical Remarks and Recommendations.**

I have no critical remarks. The scientific production provided for participation in the competition does not contain significant weaknesses that would detract from its merits. As a recommendation, I can point out that it is appropriate for the candidate to publish more independent research and possibly more publications in scientific journals abroad. It is reasonable for Vilislav Radev to start training **doctoral students** in the near future.

## **6. Conclusion**

The documents and materials presented by Ch. Asst. Vilislav Ivanov Radev, PhD, fully comply with the requirements of the Development of Academic Staff in the Republic of Bulgaria Act (DASRBA), the Rules on its implementation and the Rules for the Development of the Academic Staff of Plovdiv University 'Paisii Hilendarski' for occupying the academic position 'Associate Professor'.

The candidate in the competition submitted **a sufficient number** of scientific papers published after the materials used for the defense of the educational and scientific degree Doctor'. There are original scientific and applied contributions in the candidate's publications. The theoretical developments have practical applicability, and some of them are directly oriented towards teaching activity. The scientific and teaching qualifications of Ch. Asst. Vilislav Ivanov Radev, PhD are undoubted.

The high results achieved by the candidate in teaching and research activities fully correspond to the requirements for holding the academic position of 'Associate Professor'.

The candidate in the competition meets the minimum national requirements and the additional requirements of the Faculty of Pedagogy at Plovdiv University for occupying the academic position ‘Associate Professor’ in Professional Field 1.3. Pedagogy of Teaching... I do not suspect plagiarism in the papers submitted for review.

After getting acquainted with the materials and scientific works presented in the competition, and after analyzing their significance and the scientific and scientific and applied contributions contained in them, I find it reasonable to give a well-deserved positive assessment and my **positive conclusion** and to recommend the Scientific Jury to propose at the Faculty Council of the Faculty of Pedagogy the election of Ch. Asst. Vilislav Ivanov Radev, PhD for the academic position ‘Associate Professor’ in Plovdiv University ‘Paisii Hilendarski’ in Professional Field 1.3. Pedagogy of Teaching... (Methodology of Teaching Information Technology and Working in a Digital Environment).

Plovdiv

15.08.2023 r.

Reviewer: .....

/Prof. Kosta Garov, PhD /