

OPINION

on the application for academic position "Associate Professor" in professional field

1.3. Pedagogy of Teaching in... (Informatics and Information Technologies), for the needs of Sofia University "St. Kliment Ohridski "(SU), Faculty of Mathematics and Informatics (FMI), announced in SG, issue 61/02.08.2022 and on the FMI and SU websites

This opinion is prepared by **Assoc. Prof. Irina Zdravkova Voutova, PhD**, Sofia University "St. Kliment Ohridski", professional field 1.3. Pedagogy of Teaching... (Mathematics), a member of the scientific jury for the competition in accordance with Order № ПД - 38-564/30.09.2022 of the Rector of Sofia University.

Only one application was submitted for the announced position by Chief Assistant Professor Phillip Petrov Petrov, PhD, FMI, Sofia University.

I. General description of the submitted application documents

I have received all required documents in electronic format.

1. Application data

The submitted documents by the applicant Chief Assistant Professor Phillip Petrov Petrov, PhD comply with the requirements of the corresponding National Acts (ЗРАСРБ, ППЗРАСРБ) and the Regulations on the Terms and Conditions for Acquiring Scientific Degrees and Occupying Academic Positions at Sofia University "St. Kliment Ohridski "(ПУРПНЗАДСУ). The applicant presented 17 documents for the competition, including: 15 scientific papers, published in international scientific journals, indexed in internationally-recognized databases or peer-reviewed scientific journals in Bulgaria; 3 studies and 2 monographs (one as a habilitation work). The publications are submitted as 16 other documents as follows: CV; copies of Bachelor Degree Diploma, Master Degree Diploma and Doctoral Degree Diploma; a document for an academic position; a certificate of professional experience; documents, proving the fulfillment of the requirements of art. 105, paragraph 1, item 2; a list of all publications and a list of publications, presented for the competition; reference for participation in scientific projects (6 projects all together); reference for participation with reports in conferences; reference for the implementation of the minimum national requirements for the corresponding professional field and the additional requirements of SU "St. Kliment Ohridski"; citations reference; reference for the original scientific results and achievements; abstracts of the reviewed papers in Bulgarian and English language; copy of the announcement in the State Gazette.

2. Applicant Data

Fillip Pertov Petrov was born on March 26, 1983. In 2001 he graduated 151 School in Sofia and started his education at the Faculty of Mathematics and Informatics, Sofia University "St. Kliment Ohridski ". In 2006 he graduated as a Bachelor in Applied Mathematics. In 2008 he graduated as a Master in Technologies in Teaching Mathematics and Informatics at the Faculty of Mathematics and Informatics of Sofia University "St. Kliment Ohridski".

From 2004 to 2008 Fillip Petrov was a technical support operator and technical support team leader Abacus Trade Ltd. From September 2009 to October 2015, F. Petrov was an Assistant Professor at the Faculty of Computer Systems and Management of the Technical University - Sofia. Since October 2015, he has been a Chief Assistant Professor at Sofia University "St. Kliment Ohridski".

In 2014 Fillip Petrov Petrov successfully defended a doctoral thesis, titled "Organizational Model for the Application of Interactive Methods in the Teaching Linear Algebra", in the field of 1.3. Pedagogy of Teaching in ... (Methodology of Teaching Mathematics) at Southwest University "Neofit Rilski". Prof. Iliya Gudjenov, PhD and Assoc. Prof. Daniela Dureva-Tuparova, PhD were his scientific advisors.

Chief Assistant Professor Fillip Petrov, PhD has participated more than 14 national and international conferences. He has published a total of 2 monographs, 2 books and 7 articles in scientific journals, 15 articles in conference proceedings and 2 textbooks.

Dr. Fillip Petrov has very good technical skills (Java, C/C++, and PHP programming, database design and administration under MySQL and MariaDB DBMS, support of web hosting servers under FreeBSD operating system), and also organizational skills, acquired during his teaching, organizing the teaching practice of students at school and having participated in various forums in education. He speaks English fluently. Since 2016, F. Petrov has been an academic mentor of the students of "Mathematics and Informatics" and "Technologies in Teaching Mathematics and Informatics" specialties at FMI of SU, a member of the program committee and secretary of section B for the Spring Conference of the UBM, an academic mentor at BG05M2OP001-2.002-0001 project of operational program "Science and Education for Smart Growth". Since 2018, he is the secretary of Teaching Mathematics and Informatics Department.

3. General information of the applicant's scientific works and achievements

The scientific papers submitted by Fillip Petrov do not repeat those of previous procedures for the acquisition of a scientific degree and academic position. The attached references under art. 26, paragraphs 2 and 3 of ЗПАСРБ and art. 105, paragraph 2 of ПУРПНСЗАДСУ show that the applicant complies with the minimum national requirements and respectively the additional requirements of SU "St. Kliment Ohridski" for occupation of the academic position "Associate Professor" in the scientific field of the competition. For example, according to indicator Г, he has 225 points with a requirement of 200 points.

The scientific contributions in the publications of Dr. Phillip Petrov are original and there is no evidence of suspicion of plagiarism. They are published in prestigious journals and scientific forums, which is a testament to their originality and high scientific level.

4. Information and evaluation of the applicant's teaching activity

During the period of his work at FMI, Phillip Petrov has had a full academic workload. He has seminars and lectures in: Course in Informatics at School, Course in Information Technology at School, Basics of Secure Web Programming, Programmed Learning, Web Design, Databases, Introduction of Programming, Teaching Informatics and Information Technology - School Practice, Current Pedagogical Practice with students in "Mathematics and Informatics" Bachelor's Program, students in "Technology in Teaching Mathematics and Informatics" Master's Program and students in "Teacher in Mathematics and Information Technology" and "Teacher in Informatics and Information Technology" Postgraduate Qualification Programs. Chief Assistant Professor Phillip Petrov, PhD is respected among his students and his colleagues at FMI.

5. Instructive analysis of the applicant's scientific and applied scientific achievements presented in the application documents

Applicant's scientific publications are in the following groups: Indicator B.3.Habilitation work – a monograph (1 item); Indicator Г.4.A monograph, which is not presented as the main habilitation work (1 item); Indicator Г.6.Articles, published in scientific journals, referenced and indexed in internationally-recognized databases of scientific information: – 2 items; Indicator Г.7.Articles published in unrefereed journals with scientific review or in peer-reviewed journals - 13 items.

In general, the presented publications concern the methodology work of teachers in Informatics and Information Technology, as well as the methodological preparation of students – future teachers in Informatics and Information Technology. The scientific contributions of the publications, submitted for the competition are mainly in the field of problems in teaching informatics in Bulgarian schools, programmed learning, methods in teaching informatics and information technology and technological means to support the teaching informatics and information technology.

In the monograph "Challenges to Informatics Education in Bulgarian Secondary Schools" an in-depth analysis of the current problems in curricula and educational content of the school informatics course was made. A proposal has been made to restructure existing curricula so that, with minimal displacement of learning content between different grades, basic knowledge of informatics becomes more accessible to students.

In the monograph "Theory of Dialogue Teaching Programs" a review of the history of programmed learning is made and a summary of scientific works related to dialogue teaching programs is also made.

In the field of methods in teaching informatics and information technologies, five publications were submitted for participation in the competition. A summary of the results of five experimental organizational models for teaching Linear Algebra is made (Г-5). The experience of reforming the educational content of seminars in "Databases" is presented (Г-6). The experience of a five-year experiment for the early introduction of threads and sockets already in the second year in the teaching of students in "Programming and use of computers - 3" (PUC-3) was shared (Г-7). A practice is described to introduce an organizational model for conducting pedagogical practices, in which pairs of groups of students exchange the schools they attend in the middle of the semester (Г-14). A specific method of teaching young children is described, which has been adapted and applied to the information technology education of junior high school and high school students (Г-16).

Six of the publications submitted for participation in the competition are in the field of technological means to support the teaching mathematics and informatics. The functionalities of software applications for integrating technologies for displaying mathematical formulas and inputting mathematical text into web forms have been analyzed (Г-4). Attempts to technologically and organizationally solve the problem related to mechanical copying during the defense of reports for course projects in "Software technologies for secure code" at Technical University - Sofia are described (Г-9). An author's website with a collection of problems with sophisms is presented (Г-10). An author's system for managing a database of task banks and a system for automatically generating paper tests is proposed (Г-11). A joint project with a teacher in Information Technology at "Saint George" Private School is presented (Г-12). The idea of the project is to show that the computer room can be easily and affordably turned into a laboratory where students can experiment not only with software, but also with computer hardware. A set of technological means is proposed for hybrid teaching (simultaneously present and broadcast in an electronic environment) (Г-15).

The applicant has submitted a list of 6 citations, one of the citations is found in a monograph, one of the citations is found in a conference report, and the rest citations are found in articles in refereed and indexed journals.

6. Critical comments and recommendations

I have no critical comments on the works.

7. Personal impressions

I have known Phillip Petrov since he has started working at "Teaching Mathematics and Informatics Department, and my impressions of him as an assistant professor and colleague are excellent.

8. Conclusion on the application

Having read the materials and scientific works submitted to the competition and based on the analysis of their significance, scientific and scientific-applied contributions, I **confirm** that the scientific achievements of the applicant meet the requirements of ЗРАСРБ and the Regulations on the Terms and Conditions for Acquiring Scientific Degrees and Occupying Academic Position "Associate Professor" in Sofia University "St. Kliment Ohridski" in the scientific and professional field of the competition. In particular, the applicant meets the minimum national requirements in the professional field 1.3. and no plagiarism was found in the scientific papers submitted to the competition.

I give my **positive** assessment of the application.

II. GENERAL CONCLUSION

Based on the above information, I **recommend** the scientific jury to propose to the Council of the Faculty of Mathematics and Informatics, Sofia University "St. Kliment Ohridski", to approve the application of Chief Assistant Professor Phillip Petrov Petrov, PhD for the academic position of "Associate Professor" in a professional field 1.3. Pedagogy of Teaching in... (Informatics and Information Technology).

21.11.2022

The opinion was prepared by:

(Assoc. Prof. Irina Voutova, PhD)