

OPINION

by Prof. Krastena Todorova Nikolova, Ph.D.

Head of the Department of Physics and Biophysics, Medical University - Varna

According to materials submitted for participation in the competition for the academic position of 'Associate Professor' of Plovdiv University "Paisii Hilendarski" in the field of higher education 1. Pedagogical sciences, professional field 1.3. Pedagogy of teaching "Methods of teaching physics",

Christina Georgieva Petrova from Plovdiv University "Paisii Hilendarski" is a candidate in the competition for 'associate professor', announced in the State Gazette, issue 40 from 14.05.2021 and on the website of Plovdiv University "Paisii Hilendarski" for the needs of the Department of Educational Technologies at the Faculty of Physics and Technology.

1. General presentation of the procedure and the candidate, as well as of the received materials

I was appointed a member of the scientific jury of a competition for the academic position of 'associate professor' in PU in the field of higher education. 1. Pedagogical sciences, professional field 1.3 Pedagogy of teaching in, scientific specialty "Methodology of teaching physics", announced for the needs of the Department of Educational Technologies at the Faculty of Physics and Technology by order № P33-3129 of 12.07.2021 of the Rector of Plovdiv University "Paisii Hilendarski" (PU)

Only a candidate main assistant Hristina Georgieva Petrova has submitted documents for participation in the announced competition. The set of paper materials presented by Hristina Georgieva Petrova is in accordance with the Regulations for development of the academic staff of the University of Plovdiv, and includes the following documents:

- ✓ Request to the Rector of Paisii Hilendarski University of Plovdiv
- ✓ Creative CV
- ✓ Diploma for master's degree
- ✓ Diploma for PHD
- ✓ List of scientific publications
- ✓ Reference from NACID
- ✓ Annotation of the materials in Bulgarian and English
- ✓ Declaration of Assurance
- ✓ Additional documents certifying the scientific and educational work.

The candidate Hristina Georgieva Petrova has applied a total of 37 scientific papers, 1 monograph, 3 textbooks and a list of 33 research papers. 37 scientific papers are accepted for review, which are outside the dissertation and are considered in the final evaluation.

Main Assist. Petrova in 1990 completed her master's degree at the University of Plovdiv "Paisii Hilendarski", Faculty of Chemical Biology as a teacher of chemistry and physics. She was successively an assistant at the Pedagogical Institute in Smolyan, and later at the Department of Physics Teaching Methodology at the Paisii Hilendarski University of Plovdiv. Since 1999 she has been a senior assistant, and since 2007 she has been a main assistant at the same department. In 2011 she defended his doctoral dissertation in the field of pedagogy of physics education on the topic "Using the graphic method in physics education in high school (sections Kinematics and Thermal Phenomena)".

Personal impressions

I know main assistant Petrova since my student years as a tolerant and dedicated teacher. Even then, I was impressed by her attempt to explain to us in the most accessible, visual and understandable way the physical phenomena, laws and processes that we as trainee teachers had to explain to our students.

Later main assistant Petrova was a part-time lecturer at the Department of Mathematics and Physics at the University of Food technologies in Plovdiv, where I was an associate professor and lead lectures of physics. It was a pleasure for me to watch her try to make physics understandable to future engineer technologists.

2. General characteristics of the candidate's activity (s)

For the last five years, main assistant Petrova exceeds the norm of study load of 360 hours per year. She is the author and co-author of over 13 programs. She has written three manuals related to the graphical method for solving problems in different branches of physics. She was the scientific supervisor of 7 successfully defended graduates - 4 bachelors and 3 masters.

The distribution of the candidate's scientific papers by relevant rubrics, in the country and abroad, is as follows

- Publications in scientific journals included in the global system for referencing, indexing and evaluation with impact rank and impact factor - 21.2% (7 articles)
- Publications in peer-reviewed and indexed journals abroad 6% (2 articles)
- Publications in referenced and indexed Bulgarian journals 54.5% (18 articles)
- Publications from national scientific conferences and scientific sessions, publications from conferences with international participation 15.3% (5 articles)
- Publications from conferences with international participation 3% (1 article)

The contribution of main assistant Petrova is great at writing scientific papers. She is the lead author in 31 of 33 scientific articles. About 27% of the publications are written in English. Participates in three research projects, one of which is international.

In the monographic work the author develops the idea of the essence of graphic modeling of physical objects, processes and phenomena in the teaching of physics. Works by the author

herself are systematized, as well as those created by other authors in the author's interpretation.

As one of the most significant contributions from the development of main assistant Petrova I would point out the connection between educational content, teacher, computer technology and student. In a time of pandemic, a qualitative transformation of the teaching and learning process through information and communication technologies is a necessity and a challenge. A significant contribution is the development, implementation and evaluation of an educational computer presentation and the new functions of the teacher in training with information and communication technologies.

Other applied contributions are the development of: methodology for solving problems for constructing physical graphics based on experimental results; methodology for solving problems by determining the area below the line of the graph; methodology for solving problems for interpreting graphs;

Structural models of basic graphic skills have been developed: skills for constructing physical graphics and skills for extracting information from constructed graphics.

Methodological guidelines for the teacher and for the students, related to the successful solution of the graphic tasks, have been developed and implemented in the learning process.

Evidence of the importance of the candidate's scientific works are the citations of scientific publications. Main assistant Petrova has 19 citations, 10 are in international databases.

3. Critical remarks and recommendations

I have no critical remarks and recommendations to the candidate.

CONCLUSION

The documents and materials submitted by Hristina Petrova meet all the requirements (s) of the Law for the Development of the Academic Staff in the Republic of Bulgaria (LASRB), the Rules for implementation of the LASRB and the respective Rules of PU "Paisii Hilendarski".

The candidate in the competition has / presented a significant number of scientific papers published after the materials used in the defense of ONS 'Doctor'. In the works of the candidate there are original scientific and applied contributions, which have received international recognition as a representative part of them are published in journals and scientific journals published by international academic publishers. Her theoretical developments have practical applicability, as some of them are directly oriented to the educational work. The scientific and teaching qualification of main assistant Petrova is undoubted. Achieved by main assistant Hristina Petrova results in teaching and research activities fully comply with the specific requirements of the Faculty of Physics and Technology, adopted in connection with the Regulations of the University of Plovdiv for the application of ZRASRB.

After getting acquainted with the materials and scientific papers presented in the competition, analysis of their significance and contained in them scientific, scientific-applied and applied contributions, I find it reasonable to give my positive assessment and recommend to the

Scientific Jury to prepare a report-proposal to the Faculty. Council of the Faculty of Physics and Technology for selection of main assistant Hristina Petrova. of the academic position 'Associate Professor' at the University of Plovdiv "P. Hilendarski "by professional field 1.3. Pedagogy of teaching, scientific specialty "Methodology of teaching physics".

25.08. 2021 г.

Signature:.....

Prof Kr. Nikolova, PhD