

STANDPOINT

from PhD Margarita Yordanova Panayotova

associate professor in University of Plovdiv „Paisii Hilendarski“, Faculty of Biology
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of the materials presented for participation in competition
for filling an academic position "**associate professor**"
in University of Plovdiv „Paisii Hilendarski“

by Field of higher education 1. Pedagogical sciences
Professional direction 1.3 Pedagogy of teaching ...
(Scientific specialty Methodology of teaching Physics)

In the competition for associate professor, announced in National newspaper, copy 40 from 14th May 2021 and in the web page of University of Plovdiv „Paisii Hilendarski“ for the needs of the Department „*Educational technologies*“ to *Faculty of Physics and Technology*, **PhD Hristina Georgieva Petrova** chief assistant in the same Department participates as a candidate.

1. General presenting of the of the procedure and the candidate

With order № P33-3129 from 12th July 2021 of the Rector of University of Plovdiv „Paisii Hilendarski“ (PU) I am determined for member of the scientific jury in competition for taking an academic position „**associate professor**“ in PU by Field of higher education 1. Pedagogical sciences, Professional direction 1.3 Pedagogy of teaching ... , Scientific specialty Methodology of teaching Physics **announced for the needs of** the department „*Educational technologies*“ to *Faculty of Physics and Technology*.

For participation in the announced competition **one candidate** has handed over documents: PhD **Hristina Georgieva Petrova**, chief assistant in Department „*Educational technologies*“ to Faculty of Physics and Technology, University of Plovdiv „Paisii Hilendarski“. The set of materials presented by her is in correspondence with the Regulations on developing of the academic staff of PU and it includes all required documents.

The candidate has submitted for review a total of **34** scientific works: **9 articles** with SJR, 2 of which are in reviewed and indexed journals abroad; **18 articles** in reviewed and indexed Bulgarian journals and scientific works, **6 articles** from international and national scientific conferences and

scientific sessions and **one monography**. In addition, 3 educational appliances are presented, as well as an additional list of 13 research developments.

Documents (in the form of official notes) for participation in two national and one international project, as well as in the scientific-practical forum "Innovations in education and cognitive development" in the period 2016-2020 with 12 articles published in the journal "Education and Technology" (peer-reviewed and referenced in Crossref and NACID) are attached.

All submitted works for the academic position of „Associate Professor“ are at a high scientific level and have indisputable practical significance. All articles (except for 2) are independent, original and are the result of many years of targeted research of the candidate.

Chief assistant PhD Hristina Petrova has been working at University of Plovdiv "P. Hilendarski" for 28 years. During this period she grew and developed her teaching and research activities. I know her as a responsible, ambitious, extremely correct, creative, delicate and respectful colleague. She is always very well prepared theoretically and methodically for lectures and exercises. The students we teach together define her as well-meaning, empathetic, with an individual approach to each, informed and accurate teacher. The above qualities are undoubtedly a prerequisite for holding the academic position of "Associate Professor" in the competition.

2. General characteristics of the candidate's activity

Chief Assistant PhD Hristina Petrova has great and varied *educational and pedagogical activity*.

She gives lectures, seminars and laboratory exercises, for which she has developed the relevant curriculum: 5 lecture courses and 4 types of seminar and laboratory exercises for different specialties of the Bachelor's degree - full-time and part-time study, two lecture courses for elective courses of the Master's Degree and Additional professional qualification „Teacher of Physics“, for current and undergraduate practice for masters, taking into account the specifics of each specialty.

She has got three educational appliances published - two Methodical manuals and one Book with graphical problems in physics for secondary schools.

The average workload with hours for the last five years (from 400 to 543 hours) exceeds the set norm for study employment of 360 hours at University of Plovdiv „Paisii Hilendarski“. The accumulated experience allows her to successfully bring out 7 graduates of Bachelor's and Master's degrees.

The materials submitted for review determine the field of *scientific and scientific-applied activity* of chief assistant PhD Hristina Petrova in the theoretical and methodological issues of graphical modeling.

The mentioned 19 citations in scientific journals, referenced and indexed in world-famous and national databases with scientific information define the candidate as a recognizable and established scientist.

The verification for fulfillment of the minimum requirements for acquiring the academic position „associate professor“ shows that chief assistant PhD Hristina Petrova exceeds almost twice the minimum of points: according to criterion **G** instead of 200 points, she has 390 points and according to criterion **D** instead of 50 points, she has 90 points.

The content analysis of the main scientific, scientific-applied, applied and methodical materials shows a significant *contribution to the theory and practice* in the field of graphical modeling in the teaching of Physics.

The essence, goals, techniques, means, main stages in the teacher and student's activity in its use are clarified. A complex of didactic technologies with possibilities for use in different physics sections is developed, advantages and limitations are indicated. Structural models of basic graphical skills have been developed. A methodology for solving graphical problems in physics education has been developed and implemented in practice, for which there is a deficit in the methodological literature in physics.

All this presents the structure of graphical modeling as a system and complements the content of the methodology of teaching physics.

Apart from the field of graphic modeling, chief assistant PhD Hristina Petrova shows interests, knowledge and innovation in other areas of physics education. They are use of ICT, formation of key competencies, meta-subject universal skills and science literacy in students, computer modeling, distance learning, use of the reflective approach in physics education, etc.

The articles mentioned in these fields present her as a modern and up-to-date researcher and lecturer in the Methodology of physics education.

I am convinced that the contributions and results mentioned, both in the articles (mostly independent) and in the educational appliances and in the attached monography are a personal achievement and merit of chief assistant PhD Hristina Petrova.

3. Critical remarks and recommendations

My critical remarks refer only to the way of presenting the list of literary sources in the monography - they are not arranged in alphabetical order, which makes it difficult to trace the information used. This is not noticeable in other scientific works, which is why I think the candidate had reasons to do so. However, I recommend that in future publications the requirements of The Bulgarian state standard for citation and arrangement of the used literature should be observed.

CONCLUSION

The documents and materials submitted by chief assistant PhD **Hristina Georgieva Petrova** meet all the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria, the Regulations for implementation of the Law on the Development of Academic Staff in the Republic of Bulgaria and the relevant Regulations of PU „Paisii Hilendarski“.

The candidate in the competition has submitted a **significant** number of scientific works published after the materials used in the defense Educational and Scientific Degree „PhD“.

In the works of the candidate there are original scientific and applied contributions, which have received international recognition and most of them are published in journals and scientific books, published by international and national academic publishers.

Her theoretical developments have practical applicability, and most of them are directly oriented to the educational work.

The scientific and teaching qualification of candidate chief assistant PhD **Hristina Petrova** is undoubted. The results achieved by her in teaching and research activity **fully** correspond to the Law on the Development of Academic Staff in the Republic of Bulgaria, the Regulations for implementation of the Law on the Development of Academic Staff in the Republic of Bulgaria and the relevant Regulations of PU „Paisii Hilendarski“.

After getting acquainted with the materials and scientific works presented in the competition, analysis of their significance and the containing scientific, scientific-applied and applied contributions, I find it reasonable to give my **positive** assessment and recommend the Scientific Jury to prepare a report-proposal to the Faculty Council of the Faculty of Physics and Technology for the election of **chief assistant PhD Hristina Georgieva Petrova** for 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*.

25th August 2021

Prepared the standpoint:

/Assoc. Prof. PhD Margarita Panayotova/