

EXPERT OPINION

By PhD Margarita Yordanova Panayotova

Associate Professor at Plovdiv University "P. Hilendarski",

Faculty of Biology, Department of Botany and Methodology of teaching biology

of the materials submitted for participation in the competition

for holding the academic position "Associate Professor" at Plovdiv University "Paisii Hilendarski" by field of higher education 1. Pedagogical sciences professional direction , 1.3. Pedagogy of teaching in..., scientific specialty "Methodology of teaching chemistry" to the Department of General and Inorganic Chemistry with Methodology of Teaching Chemistry at the Faculty of Chemistry

In the competition for "associate professor", announced in the State Gazette, issue 40 / 14.05.2021 and on the website of Plovdiv University "Paisii Hilendarski" for the needs of the Department of General and Inorganic Chemistry with the methodology of teaching chemistry at the Faculty of Chemistry, PhD Antoaneta Anastasova Angelacheva participated as a candidate-Chief Assistant in the same department.

1. General presentation of the procedure and the candidate

By order № № P33-3163 of 13.07.2021 of the Rector of the University of Plovdiv "Paisii Hilendarski" (PU) in connection with the competition for the academic position of "Associate Professor", announced in SG No. 40 / 14.05. 2021 for a member of the scientific jury in the field of higher education - 1. Pedagogical sciences, professional field, 1.3. Pedagogy of teaching in..., scientific specialty "Methodology of teaching chemistry", announced for the needs of the Department of General and Inorganic Chemistry with methods of teaching chemistry at the Faculty of Chemistry.

The only candidate for one of the places in the announced competition has submitted- PhD Antoaneta Anastasova Angelacheva, Chief Assistant in the Department of General and Inorganic Chemistry with Methodology of Chemistry Education at the Faculty of Chemistry at P. Hilendarski University of Plovdiv. The set of materials presented by her on electronic media is in accordance with the Regulations for development of the academic staff of PU and includes all necessary documents.

The candidate has submitted for review a total of 34 scientific papers: two monographs, one of which is presented as a habilitation thesis, one book based on a defended dissertation for the educational and scientific degree,

7 articles in scientific journals, referenced and indexed in world-famous scientific databases. information-(Abstracting / Indexing: SCOPUS 2006 - 2017), of which 2 are in English, 2 are independent and 2 are with a first author; 21 articles in non-refereed journals with scientific review or published in edited collective volumes (6 of them are in English and 20 are independent), 3 textbooks

of the University Publishing House "P. Hilendarski "(2 of them are independent and 1 is with the first author). In addition, an additional list of research papers is presented - 13 articles published in non-refereed journals with scientific review or published in edited

collective volumes, as well as 5 textbooks co-authored - all published by University Publishing House "P. Hilendarski ".

Documents (in the form of official notes) for participation in one national and three university projects as a member of the research teams are also attached. All submitted works for the academic position of "Associate Professor" are at a high scientific level and have indisputable practical significance. A significant number of them (27) are independent, original and are the result of many years of targeted research of the candidate.

Chief Assistant PhD Antoaneta Angelacheva has been working at Plovdiv University P. Hilendarski for 25 years. During this period she grew and developed in her teaching and research activities. I know her as a responsible, ambitious, thorough, creative and respectful colleague. The above qualities are undoubtedly a prerequisite for holding the academic position "Associate Professor" in the competition.

2. General characteristics of the candidate's activity

Chief Assistant PhD Antoaneta Angelacheva has a rich and diverse educational and pedagogical activity. She gives lectures, seminars and laboratory exercises, for six of which she has developed the relevant curricula: 11 lecture courses and 13 types of seminars and laboratory exercises for various specialties of Bachelor's and Master's degrees - full-time and part-time study, taking into account of the specifics of each specialty. To ensure the indicated lecture courses and exercises, he is the author or co-author of relevant textbooks. The average workload with hours for the last five years (from 418 to 858 hours) exceeds the set norm for study employment of 360 hours at P. Hilendarski University of Plovdiv.

The accumulated experience allows her to bring out successfully 8 graduates from the Bachelor's Degree - Biology and Chemistry and Chemistry and Physics.

The materials submitted for review determine the field of scientific and scientific-applied activity of Chief Assistant PhD Antoaneta Angelacheva in three thematic areas: The educational chemical experiment; Environmental education in chemistry education in high school and Organization and control of the process of teaching chemistry.

The mentioned 16 citations in scientific journals, referenced and indexed in world-famous and national databases with scientific information, as well as in monographs and collective volumes with scientific review, define the candidate as a recognizable and established scientist. The reference for fulfillment of the minimum requirements for acquiring the academic position "associate professor"

shows that Chief Assistant PhD Antoaneta Angelacheva exceeds twice and three times the national minimum of points: by criterion G, instead of 200 points, there are 515 points, and according to criterion D instead of 50 points - 185 points, for three years.

The content analysis of the main scientific, scientific-applied, applied and methodical materials in the three main directions in the scientific-practical research of Chief Assistant PhD Antoaneta Angelacheva, shows a significant contribution to the theory and practice of the methodology of teaching chemistry. The following are more significant: the more important essential characteristics of the experiment and the observation as the main methods of scientific and educational knowledge are revealed; a methodology for application of the educational chemical experiment in the preparation of students - future chemistry teachers has been created; a model has been created for conducting the exercises of the students in the discipline "Methodology and technique of the educational chemical experiment", presented in the textbook of the same name; a didactic model for the implementation of environmental education in the process of teaching chemistry has been developed, defining the content and interrelations of the concepts related to it; criteria for selection and compilation of teaching tasks in chemistry with ecological orientation are derived and variants of such tasks are developed; the structure and stages of conducting the different types of chemistry lessons, of some class-non-lesson and extracurricular forms for the organization of chemistry education are presented; models are proposed for the development of a syllabus for a chemistry lesson, for the implementation of observation and analysis of a chemistry lesson; didactic tests (subjected to a priori and a posteriori analysis) were constructed to establish the training of students and students in chemistry. All the listed contributions expand, deepen and supplement the content of the methodology of teaching chemistry.

I firmly accept that the indicated contributions and results, both in the articles (mostly independent) and in the textbooks and in the attached monographs, are a personal achievement and merit of Chief Assistant, PhD Antoaneta Angelacheva.

3. Critical remarks and recommendations

I have no critical remarks on the materials submitted for review.

CONCLUSION

The documents and scientific papers submitted by the candidate Chief Assistant Professor PhD Antoaneta Angelacheva are prepared very carefully and thoroughly and are designed clearly and aesthetically.

They meet the requirements of the Law for development of the academic staff in the Republic of Bulgaria, the Regulations for application of the Law for development of the academic staff in the Republic of Bulgaria and the respective Regulations 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 educational and scientific degree "PhD". In the works of the candidate there are original scientific and applied contributions, adequately indicated in the prepared self-assessment, and have received international recognition as a representative part of them are published in journals and scientific journals published by national and international academic publishers. Theoretical developments have practical applicability, as most of them are directly oriented to the educational work. The scientific and teaching qualification of candidate - Chief Assistant PhD Antoaneta Angelacheva is undoubted. The results achieved by her in the teaching and research activities fully comply with the Law for the Development of the Academic Staff in the Republic of Bulgaria for holding the academic position of "Associate Professor".

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 Chemistry for election of **Chief Assistant PhD Antoaneta Angelacheva**, for the academic position of "Associate Professor" at the University of Plovdiv "P. Hilendarski" of professional field – 1.3. Pedagogy of teaching..., scientific specialty "Methodology of teaching chemistry".

26.08.2021

Prepared the opinion:

/Assoc. Prof. PhD Margarita Panayotova/